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ABSTRACT

The purposes of this study were to compare the physical fitness level of Oklahoma youth with that of a national sample used in the 1965 study on youth fitness, and to develop Oklahoma norms for the items tested. This study used a random stratified sampling technique in the selection of Oklahoma seventh and eighth graders, and was representative of the Oklahoma student population involved in physical education programs. A total of 2,000 boys and 1,600 girls from 135 schools were involved. Conclusions from the data included: (1) Oklahoma boys (12 and 13 years old) had higher mean scores on the pull-up and sit up, (2) the 1965 national sample of boys had higher scores on all items for 14-year olds, (3) Oklahoma girls had higher scores on all test items in all age groups with the exception of the 50-yard dash in the 12-year age group, (4) the 12 and 13-year old group of Oklahoma students generally scored better than their comparable group in the national sample. The authors conclude that the applicability of national fitness norms to evaluate fitness programs in the state of Oklahoma is questionable. (Author/KJ)

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(A Pilot Study for Grades 7 and 8)

October 1969

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Office of Education
Bureau of Research

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(A Pilot Study for Grades 7 and 8)

Jerome C. Weber

University of Oklahoma
Norman, Oklahoma

October 1969

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TABLE OF CONTENTS

| | Page |
|--|------|
| ACKNOWLEDGMENTS. | iii |
| LIST OF TABLES | v |
| LIST OF ILLUSTRATIONS. | vi |
| LIST OF APPENDICES | vii |
| Chapter | |
| I. INTRODUCTION | 1 |
| Statement of the Problem | 1 |
| Importance of the Problem. | 1 |
| Limitation of the Study. | 3 |
| General Background | 5 |
| II. METHODOLOGY. | 8 |
| Selection of Sample. | 8 |
| Description of Test. | 10 |
| Administration of Test and Data Collection | 16 |
| III. RESULTS. | 19 |
| Statistical Analysis | 19 |
| Results. | 22 |
| IV. SUMMARY. | 35 |
| Conclusion | 37 |
| Discussion | 40 |
| SELECTED BIBLIOGRAPHY. | 44 |
| APPENDICES | 46 |

LIST OF TABLES

| Table | Page |
|--|------|
| 1. Youth Fitness Test Data for Boys | 20 |
| 2. Youth Fitness Test Data for Girls | 21 |
| 3. Comparison of Means for Boys Data Oklahoma-National With Standard Errors of Differences | 31 |
| 4. Comparison of Means for Girls Data Oklahoma-National With Standard Errors of Differences | 32 |

LIST OF ILLUSTRATIONS

| Figure | | Page |
|--------|------------------------------|------|
| 1. | Pull-Ups (Boys) | 23 |
| 2. | Flexed Arm (Girls) | 24 |
| 3. | Sit-Ups. | 25 |
| 4. | Shuttle Run. | 26 |
| 5. | Standing Broad Jump. | 27 |
| 6. | 50-Yard Dash | 28 |
| 7. | Softball Throw | 29 |
| 8. | 600-Yard Run-Walk. | 30 |

LIST OF APPENDICES

| Appendix | Page |
|---|------|
| A. Percentile Tables. | 46 |
| B. Initial Letter to School Principals. | 90 |
| C. Self-Addressed Post Card Requesting Participation Information. | 92 |
| D. Test Administration Instruction. | 94 |
| E. Individual Data Collection Form. | 102 |
| F. Final Post Card Requesting Information on Test Administration | 104 |
| G. Thank You Letter to Each Participating School. | 106 |
| H. Primary Sampling Units | 108 |

CHAPTER I

INTRODUCTION

The creation, in 1958 and again in 1965, of a national set of norms concerned with the physical fitness of American youth has been a giant step forward in allowing the individual physical education teacher to determine how effectively he is providing his students with the levels of physical fitness necessary to function effectively in today's society. However, there has been little effort directed toward answering the question of how applicable national norms are for evaluation of fitness levels when the scope of interest is limited to a single locality such as a particular state.

Statement of the Problem

The purposes of this study were to construct physical fitness norms for 7th and 8th grade boys and girls throughout the state of Oklahoma and to compare these norms to the most recent national norms to determine if significant differences exist between them.

Importance of the Problem

Physical education, like most other disciplines, is presently in a period of critical self-examination. Some impetus for this self-examination has been external such as demands by school administrators,

boards of education, teachers, and students. These groups believe that every subject area in the schools must define itself precisely in terms of its contribution to the student's welfare and its place within the general framework of the educational system. In the case of physical education this demand has been particularly vigorous because many people, within the school system and without, view physical education as a "frill" which uses up valuable time, facilities, and energies that might be better used elsewhere.

Another impetus for self-examination is internal in its origin. Physical educators today recognize that there is no longer any guarantee that curricula will automatically provide physical education for public school children. This is in part a reaction to the external impetus noted previously, and is also a reflection of a maturation on the part of the discipline of physical education. Physical educators today are prepared both psychologically and in terms of abilities to evaluate their programs on a sound quantitative basis, and not to rely as heavily as in past years on assuming program outcomes which are indefensible or, at best, unmeasurable.

One obvious outcome of the process of self-examination has been an increasing emphasis on quantitative methods for evaluation and an increasing level of sophistication in the use of such methods. The national norms developed for the American Association for Health, Physical Education, and Recreation Youth Fitness Test represented an enormous step forward in this process. The present study is an attempt to evaluate the national norms in terms of their applicability to a localized area, in this case the state of Oklahoma. Such a study is needed since

there has been no previous attempt to make such a determination. It seems reasonable to infer that while the present national norms may be representative of the continental United States, their use may be less justified if systematic differences exist throughout the nation. It is realized that such an argument may be logically extended to smaller and smaller geographic units to the point of absurdity. However, using an individual state as the basis for such a comparison seems both reasonable and desirable.

It is also possible to envision a local situation in which the results of one or a few fitness items are very much lower than those that would be expected. Such a case would point out state-wide weaknesses that could be corrected by changes in curriculum and program emphasis.

Finally, such an inquiry, regardless of its outcome, has inherent value in focusing the attention of the community on the problem of physical fitness.

Limitations of the Study

There are always a number of limitations inherent in a study involving as many subjects as the present one. It was decided to limit the present study to grades 7 and 8 and to use these results to determine if a further study involving all grades was justified. The details of subject selection are explained fully in the chapter on methodology.

A second limitation concerned the pool of subjects from which the final sample was chosen. This included those boys and girls who

were in schools which agreed to participate in the study and whose returns were properly completed and therefore eligible to be included in the sample. Of 135 schools in 77 counties which were asked to participate, only 74 schools representing 44 counties agreed to take part in the study and actually did so. It became rather obvious that the larger schools from larger counties were more willing to participate in the study than the smaller schools throughout the state. It seems reasonable that the students included in the study were generally from those schools with physical education facilities, teachers, and programs and that the schools which did not participate in the study were largely those without such facilities, teachers, and programs. In such a case the present results would not be representative of all 7th and 8th grade boys and girls but rather would represent those in schools offering physical education.

A final limitation had to do with the amount of information which could be obtained from public school students. It was originally hoped that data could be obtained from the students concerning their economic status, whether they work after school or not, racial groups, background in physical education, and other variables which might be relevant to physical fitness. However, the advice of local school officials was that an attempt to solicit such information would greatly reduce the number of schools which would agree to participate in the study. It was therefore decided to sacrifice this tangential category of information in order to help insure a greater number of respondents.

General Background

The present national concern with physical fitness received its initial and greatest impetus from the published work of Kraus and Hirschland which showed that on a test of minimum levels of fitness, 58% of the United States children failed while only 9% of a similar group of Austrian, Italian, and Swiss children failed. While this study subsequently received criticism on the validity of the specific test items and the way in which the sampling was done, the furor that arose has been of unquestioned value in making the public aware of the need for physical fitness.

As a direct result of this report, President Eisenhower created the President's Council on Youth Fitness in September, 1956. This name was later changed to the President's Council on Physical Fitness. At the same time, the American Association for Health, Physical Education, and Recreation (AAHPER) determined that a national survey of youth fitness was necessary since no national norms existed which could be used by the schools to determine if their students were being adequately trained. In February, 1957 the Research Council of the AAHPER met to construct a battery of tests for this purpose. The tests were to meet the following criteria:

- a) The test should give an indication of various components of fitness.
- b) The tests should require little or no equipment for their administration.
- c) The tests should be usable, with little or no modification, for boys and girls.

- d) The tests should be usable for students in grades 5 through 12.

On the basis of these criteria, the AAHPER youth fitness tests were selected. These tests are:

- a) Pull-ups (modified for girls) - this test is designated to measure the strength of the arm and shoulder girdle.
- b) Sit-ups - this test is designed to measure the strength of the abdominal and hip flexor muscle groups.
- c) Standing broad jump - this test is designed to measure the explosive power of the leg extensor muscles.
- d) Shuttle-run - this test is designed to measure speed and the ability to change direction.
- e) 50-yard dash - this test is designed to measure speed.
- f) Softball throw for distance - this test is designed to measure skill and coordination.
- g) 600-yard run-walk - this test is designed to measure cardiovascular efficiency.

These tests were administered to a national sample selected by the Survey Research Center of the University of Michigan and the norms were published in 1958. In 1960, a report indicated that the AAHPER tests, when administered to American and British children, showed the American children to have less shoulder girdle strength, less agility, less abdominal strength, less explosive leg power, and less endurance. The American children did better on the softball throw which is a skill rarely practiced by British children.

The same battery of tests was again given to a national sample and the revised norms were published in 1965. There was a very definite improvement in most of the items at most ages for both boys and girls. Increased familiarity with the tests and increased emphasis on physical fitness in the schools in the period between the two tests is credited with the improvements shown. It is important to note that when the schools are made aware of specific weaknesses, they are generally capable of correcting these weaknesses. However, the obvious first step is to determine if such weaknesses do, in fact, exist and, if so, in what specific area.

CHAPTER II

METHODOLOGY

Selection of Sample

The selection of a representative sample presented a problem because there was no standardized sampling procedure employed by the state for drawing representative statewide samples.

In order for the sample to proportionally represent Oklahoma's boys and girls in the 7th and 8th grade public school population, a stratified random sample technique was used to select subjects.

The sampling procedure was based on two main strata; state-wide 7th and 8th grade population and county 7th and 8th grade population. The following steps indicate the method by which the final sample was selected.

A list of counties with the school age population for 7th and 8th grade students was obtained from the Oklahoma State Department of Education. From this list five main groups were developed as follows (Appendix B):

1. Counties with a 7th and 8th grade school-age population under 499.
2. Counties with a 7th and 8th grade school-age population between 500 and 999.

3. Counties with a 7th and 8th grade school-age population between 1000 and 1999.
4. Counties with a 7th and 8th grade school-age population between 2000 and 4999.
5. Counties with a 7th and 8th grade school-age population over 5000.

Because of a lack of other stratification information, all schools having a 7th and 8th grade in the state were contacted through their principals to determine whether they would be willing to participate in the study. Out of 77 counties containing one or more eligible grades to participate in the study, 45 counties were represented in the final sample.

All schools within each county that agreed to participate in the study were asked to administer the test battery to all participating 7th and 8th grade students within each school. The total return was sorted by boys and girls, by county and by the five main strata.. Each return within each county was assigned a number from which a random selection was made, such that each county was proportionately represented by its student population of 7th and 8th graders. To insure proportionality between the large and small counties a larger sample was selected from each stratum from which a final quota was randomly selected.

The final sample consisted of 2000 boys and 1600 girls chosen to be proportionately representative of the state's 7th and 8th grade physical education school-age population.

Description of Tests

Since the present study was designed to duplicate the 1965 national study by Hunsicker and Reiff on a local level, the tests chosen as indicators of fitness were the same as those used in the previous study. The pull-up for boys, flexed arm hang for girls, sit-up, shuttle run, standing broad jump, 50-yard dash, and softball throw for distance comprise the AAHPER Youth Fitness Test which is probably the most widely used and best known test of its type in the United States today.

The specific requirements of each test are as follows.

Pull-up - Boys

Equipment. A metal or wooden bar approximately $1\frac{1}{2}$ inches in diameter is preferred. A doorway gym bar can be used and, if no regular equipment is available, a piece of pipe or even the rungs of a ladder can serve the purpose.

Description. The bar should be high enough so that the pupil can hang with his arms and legs fully extended and his feet free of the floor. Use the overhand grasp (palms away from face). After assuming the hanging position, the pupil raises his body by his arms until his chin can be placed over the bar and then lowers his body to the same position as the starting position. The exercise is repeated as many times as possible.

Rules.

1. Allow one trial unless it is obvious that the pupil has not had a fair chance.

2. The body must not swing during the execution of the movement. The pull must in no way be a snap movement. If the pupil starts swinging, check this by holding your extended arm across the front of the thighs.

3. The knees must not be raised and kicking of the legs is not permitted.

Scoring. Record the number of completed pull-ups to the nearest whole number.

Flexed Arm Hang - Girls

Equipment. A horizontal bar approximately $1\frac{1}{2}$ inches in diameter is preferred. A doorway gym bar can be used and if no regular equipment is available, a piece of pipe can also serve the purpose. A stop watch is needed.

Description. Adjust the height of the bar so it is approximately equal to the subject's standing height. Use an over-hand grasp (palms away from face). With the assistance of two spotters, one in front and one in back of the subject, the subject raises her body off the floor to a position where the chin is above the bar, the elbows are flexed and the chest is close to the bar. The subject holds this position against a time criterion as long as possible.

Rules.

1. The stop watch is started as soon as the subject takes the starting position.

2. The watch is stopped when: (a) the subject's chin touches the bar, (b) the subject's head tilts backwards to keep her

chin above the bar, (c) the subject's chin falls below the level of the bar.

Scoring. Record in seconds to the nearest whole second the length of time the subject holds the starting position.

Sit-up - Boys and Girls

Equipment. Mat or floor.

Description. The pupil lies on his back, either on the floor or on a mat, with legs extended and feet about two feet apart. His hands are placed on the back of the neck with the fingers interlaced. Elbows are retracted. A partner holds the ankles down, the heels being in contact with the mat or floor at all times.

The pupil sits up, turning the trunk to the left and touching the right elbow to the left knee, returns to starting position, then sits up turning the trunk to the right and touching the left elbow to the right knee. The exercise is repeated, alternating sides.

Rules.

1. The fingers must remain in contact behind the neck throughout the exercise.
2. The knees must be on the floor during the sit-up but may be slightly bent when touching the elbow to the knee.
3. The back should be rounded and the head and elbows brought forward when sitting up as in a "curl" up.
4. When returning to the starting position, the elbows must be flat on the mat before sitting up again.

Scoring. One point is given for each complete movement of touching the elbow to the knee. No score should be counted if the

fingertips do not maintain contact behind the head, if the knees are bent when the pupil lies on his back or when he begins to sit up, or if the pupil pushes up off the floor from an elbow. The maximum limit in terms of number of sit-ups shall be: 50 sit-ups for girls, 100 sit-ups for boys.

Shuttle Run - Boys and Girls

Equipment. Two blocks of wood, 2 inches by 2 inches by 4 inches, and stop watch. Pupils should wear sneakers or run barefooted.

Description. Two parallel lines are marked on the floor 30 feet apart. The width of a regulation volleyball court serves as a suitable area. Place the blocks of wood behind one of the lines. The pupil starts from behind the other line. On the signal "Ready? Go!" the pupil runs to the blocks, picks one up, runs back to the starting line and places the block which he carries back across the starting line. If the scorer has two stopwatches or one with a split-second timer, it is preferable to have two people running at the same time. To eliminate the necessity of returning the blocks after each race, start the races alternately, first from behind one line and then from behind the other.

Rules. Allow two trials with some rest between.

Scoring. Record the better of the two trials to the nearest tenth of a second.

Standing Broad Jump - Boys and Girls

Equipment. Mat, floor, or outdoor jumping pit, and tape measure.

Description. Pupil stands with his feet several inches apart and the toes just behind the take-off line. Preparatory to jumping, the pupil swings the arms backward and bends the knees. The jump is accomplished by simultaneously extending the knees and swinging the arms forward.

Rules.

1. Allow three trials.
2. Measure from the take-off line to the heel or other part of the body that touches the floor nearest to the take-off line.
3. When the test is given indoors, it is convenient to tape the tape measure to the floor at right angles to the take-off line and have the pupils jump along the tape. The scorer stands to the side and observes the mark to the nearest inch.

Scoring. Record the best of the three trials in feet and inches to the nearest inch.

50-Yard Dash - Boys and Girls

Equipment. Two stopwatches or one with a split-second timer.

Description. It is preferable to administer this test to two pupils at a time. Have both take a position behind the starting line. The starter will use the commands "Are you ready?" and "Go!" The latter will be accompanied by a downward sweep of the starter's arm to give the timer a visual signal.

Rules. The score is the amount of time between the starter's signal and the instant the pupil crosses the finish line.

Scoring. Record in seconds to the nearest tenth of a second.

Softball Throw for Distance - Boys and Girls

Equipment. Softball (12-inch), small metal or wooden stakes and tape measure.

Description. A football field marked in conventional fashion (five-yard intervals) makes an ideal area for this test. If this is not available, it is suggested that lines be drawn parallel to the restraining line, five yards apart. The pupil throws the ball while remaining within two parallel lines, six feet apart. Mark the point of landing with one of the small stakes. If the second or third throw is farther, move the stake accordingly so that, after three throws, the stake is at the point of the pupil's best throw. It has been found expedient to have each pupil jog out to his stake and stand there; and then, after five pupils have completed their throws, the scores are recorded. By having the pupil at his particular stake, the danger of recording the wrong score is minimized.

Rules.

1. Only an overhand throw may be used.
2. Three throws are allowed.
3. The distance recorded is the distance from the point of landing to the nearest point on the restraining line.

Scoring. Record the best of the three trials to the nearest foot.

600-Yard Run-Walk - Boys and Girls

Equipment. Track or area marked off for 600 yards and a stop watch.

Description. Pupil uses a standing start. At the signal "Ready? Go!" the subject starts running the 600-yard distance. The running may be interspersed with walking if the subject tires. It is possible to have a dozen subjects run at one time by having the pupils pair off before the start of the event. Then each pupil listens for and remembers his partner's time as the latter crosses the finish line. The timer merely calls out the time as the pupils cross the finish line.

Rules. Walking is permitted, but the object is to cover the distance in the shortest possible time.

Scoring. Record in minutes and seconds to the nearest second.

Administration of Tests and Data Collection

Every effort was made to follow the proper channels in contacting and soliciting the cooperation of the personnel to be involved in the study. Through the cooperation of the State Department of Education and especially the office of the State Director of Physical Education and the office of Educational Research, pertinent information concerning Oklahoma's 7th and 8th grade school-age population was obtained. From this information all the principals of Oklahoma public schools having 7th and 8th grades were contacted. The only exception was in the city of Tulsa where approval by a screening committee for research was necessary.

The general pattern for planning was as follows:

1. A formal letter was sent to the principal of each school soliciting his cooperation in the study (Appendix B). Enclosed with

the letter was a self-addressed stamped postcard requesting the following information (Appendix C):

- a. Name of school
- b. Address of school
- c. Whether the school would be willing to participate in the study
- d. With whom to communicate
- e. Approximate number of 7th and 8th graders
- f. If the school would need help in the testing.

2. Upon the return of the postcard, the following forms were sent to the teacher who would be in charge of the testing program: test administration instructions, testing forms, and another self-addressed stamped postcard requesting additional information as follows (Appendix F):

- a. If the enclosed directions were sufficient, or
- b. If the school needed further help in testing?

Those schools not returning the first postcard were then contacted to determine if unique problems existed to prevent their participation.

3. All schools requesting information or help were visited by University of Oklahoma Physical Education staff prior to the testing deadline set for the finish of the testing phase.

4. All schools not returning forms by the deadline were contacted to determine if problems arose to prevent the return of forms.

Because the majority of the schools participating had given the same test battery prior to this study, further orientation was unnecessary. All schools encountering problems during any phase of the study were encouraged to request help that was readily available.

Regardless of who administered the tests, the data was collected on a form devised for this purpose and shown in Appendix E. Each student was responsible for entering his test scores according to directions read to him by his teacher. When a school had completed its testing the data sheets were returned to the authors. These were then checked for accuracy and assigned numbers by county. The returns within each county were then combined in accordance with the stratum devised and the appropriate number of returns were randomly selected as described above.

After the individual data sheets to be used were chosen they were then processed by a key punch operator who transferred the data from the sheet to an IBM card. The codes used are shown in Appendix D. The remaining data was retained for future investigation.

CHAPTER III

RESULTS

Statistical Analysis

This study involved the administration of the AAHPER youth fitness test to a sample of Oklahoma 7th and 8th grade boys and girls.

The main objective of the study was to develop Oklahoma norms for the seven test items which already exist in the form of national norms, and to determine if these national norms were applicable to a smaller geographical region.

Tables 1 through 14 in Appendix A show the percentile scores of Oklahoma 12, 13, and 14 year boys and girls as compared to the percentile scores of the national sample of 12, 13, and 14 year old boys and girls. Tables 16 through 43 in Appendix A show the comparison between Oklahoma and the national sample of 7th and 8th grade boys and girls based on the Neilsen Cozen exponent index shown in Table 15 of Appendix A. On all tests the 100th percentile represents the best performance and the 0 percentile represents the lowest performance on each test in each group.

The mean scores, standard deviations and number of students in each group are shown in Table 1 for boys and Table 2 for girls for both the Oklahoma and the national sample.

TABLE 1

YOUTH FITNESS TEST DATA FOR BOYS
(Means and Standard Deviations)

| Test | | Oklahoma Norms | | | National Norms | | |
|--------------------------|-----------|----------------|-----------|-------|----------------|-----------|-------|
| | | 12 | Age 13 | 14 | 12 | Age 13 | 14 |
| Pull- ups (no.) | \bar{X} | 3.4 | 4.3 | 5.1 | 2.9 | 3.9 | 5.2 |
| | S.D. | 3.3 | 3.9 | 3.9 | 2.9 | 3.6 | 3.7 |
| | No. | 578 | 894 | 329 | 620 | 595 | 548 |
| Sit- ups (no.) | \bar{X} | 67.4 | 71.0 | 68.7 | 56.5 | 64.6 | 70.2 |
| | S.D. | 28.4 | 28.5 | 28.6 | 30.4 | 29.9 | 29.5 |
| | No. | 542 | 814 | 289 | 623 | 590 | 545 |
| Shuttle (sec.) | \bar{X} | 11.3 | 10.9 | 10.9 | 11.1 | 10.7 | 10.4 |
| | S.D. | 1.4 | 1.4 | 1.6 | 1.1 | 1.1 | .9 |
| | No. | 635 | 912 | 328 | 596 | 563 | 530 |
| Stand. Broad (in.) | \bar{X} | 65.7 | 70.2 | 72.7 | 65.3 | 70.0 | 75.7 |
| | S.D. | 9.6 | 10.0 | 10.3 | 8.9 | 10.2 | 10.5 |
| | No. | 555 | 794 | 293 | 625 | 595 | 547 |
| 50- Yard (sec.) | \bar{X} | 8.0 | 7.7 | 7.5 | 7.8 | 7.5 | 7.2 |
| | S.D. | .8 | .9 | .9 | .9 | .7 | .7 |
| | No. | 614 | 867 | 316 | 613 | 574 | 530 |
| Soft- ball (ft.) | \bar{X} | 116.3 | 130.7 | 139.5 | 122.7 | 141.2 | 154.5 |
| | S.D. | 29.6 | 32.8 | 35.5 | 26.6 | 32.1 | 33.4 |
| | No. | 406 | 665 | 267 | 627 | 586 | 538 |
| 600- Yard (sec.) | \bar{X} | 141.0 | 134.4 | 133.2 | 148.0 | 135.2 | 125.7 |
| | S.D. | 23.4 | 26.4 | 28.8 | 31.6 | 28.7 | 25.4 |
| | No. | 635 | 921 | 331 | 614 | 578 | 534 |

TABLE 2

YOUTH FITNESS TEST DATA FOR GIRLS
(Means and Standard Deviations)

| Test | | Oklahoma Norms | | | National Norms | | |
|--------------------------|-----------|----------------|-----------|-------|----------------|-----------|-------|
| | | 12 | Age 13 | 14 | 12 | Age 13 | 14 |
| Flexed Arm (sec.) | \bar{X} | 10.4 | 11.5 | 11.5 | 9.6 | 9.8 | 9.7 |
| | S.D. | 8.3 | 9.0 | 8.0 | 10.1 | 12.7 | 10.6 |
| | No. | 418 | 644 | 208 | 622 | 566 | 548 |
| Sit- ups (no.) | \bar{X} | 36.3 | 36.8 | 37.7 | 32.5 | 32.3 | 30.4 |
| | S.D. | 14.7 | 14.7 | 14.3 | 15.2 | 14.7 | 13.4 |
| | No. | 368 | 553 | 184 | 657 | 593 | 564 |
| Shuttle (sec.) | \bar{X} | 11.7 | 11.6 | 11.5 | 11.7 | 11.6 | 11.5 |
| | S.D. | 1.5 | 1.8 | 1.7 | 1.2 | 1.3 | 1.3 |
| | No. | 378 | 574 | 194 | 625 | 571 | 546 |
| Stand. Broad (in.) | \bar{X} | 62.4 | 62.9 | 64.4 | 59.9 | 60.3 | 62.2 |
| | S.D. | 9.5 | 9.2 | 8.8 | 9.6 | 9.3 | 9.3 |
| | No. | 384 | 591 | 192 | 652 | 595 | 562 |
| 50- Yard (sec.) | \bar{X} | 8.5 | 8.1 | 8.0 | 8.3 | 8.3 | 8.3 |
| | S.D. | .8 | 1.1 | 1.0 | .9 | 1.0 | 1.1 |
| | No. | 341 | 546 | 194 | 641 | 591 | 547 |
| Soft- ball (ft.) | \bar{X} | 68.7 | 76.7 | 80.8 | 66.8 | 71.9 | 77.0 |
| | S.D. | 23.4 | 23.7 | 25.5 | 21.7 | 22.5 | 21.6 |
| | No. | 331 | 542 | 192 | 655 | 598 | 565 |
| 600- Yard (sec.) | \bar{X} | 171.0 | 166.8 | 164.4 | 174.8 | 177.8 | 174.8 |
| | S.D. | 31.8 | 31.2 | 32.4 | 33.0 | 37.6 | 37.9 |
| | No. | 357 | 546 | 178 | 652 | 593 | 552 |

The differences between the mean score for the Oklahoma sample and the 1965 national sample are shown graphically in Figures 1 through 8.

Each test was compared at each age level for statistical significance. The same criterion of two times the standard error of the difference used in the national study was adopted as the criterion level for the comparison shown on Table 3 for boys and Table 4 for girls.

It should be noted that desirable performances on the flexed-arm hang (girls), pull-ups (boys), standing broad jump, sit-ups and soft ball throw are represented by high scores while the best performances on the shuttle run, 50-yard dash and the 600-yard run-walk are represented by low scores. Those differences in which the Oklahoma sample scored higher than the national sample are expressed as a positive number even though the running events would arithmetically yield a negative number. The negative numbers represent comparisons in which the national sample performance was higher than the Oklahoma sample.

Results

The preceding graphs show that Oklahoma boys had higher mean scores on the following test items for both 12 and 13 year olds: pull-up; sit-up; standing broad jump; and the 600-yard run-walk. The national sample of 12 and 13 year old boys had a higher mean score on the remaining test items: shuttle run; 50-yard dash; and softball throw. In the 14 year old group, the national sample had higher mean scores on all test items than the Oklahoma boys. The graphs representing

FIGURE 1

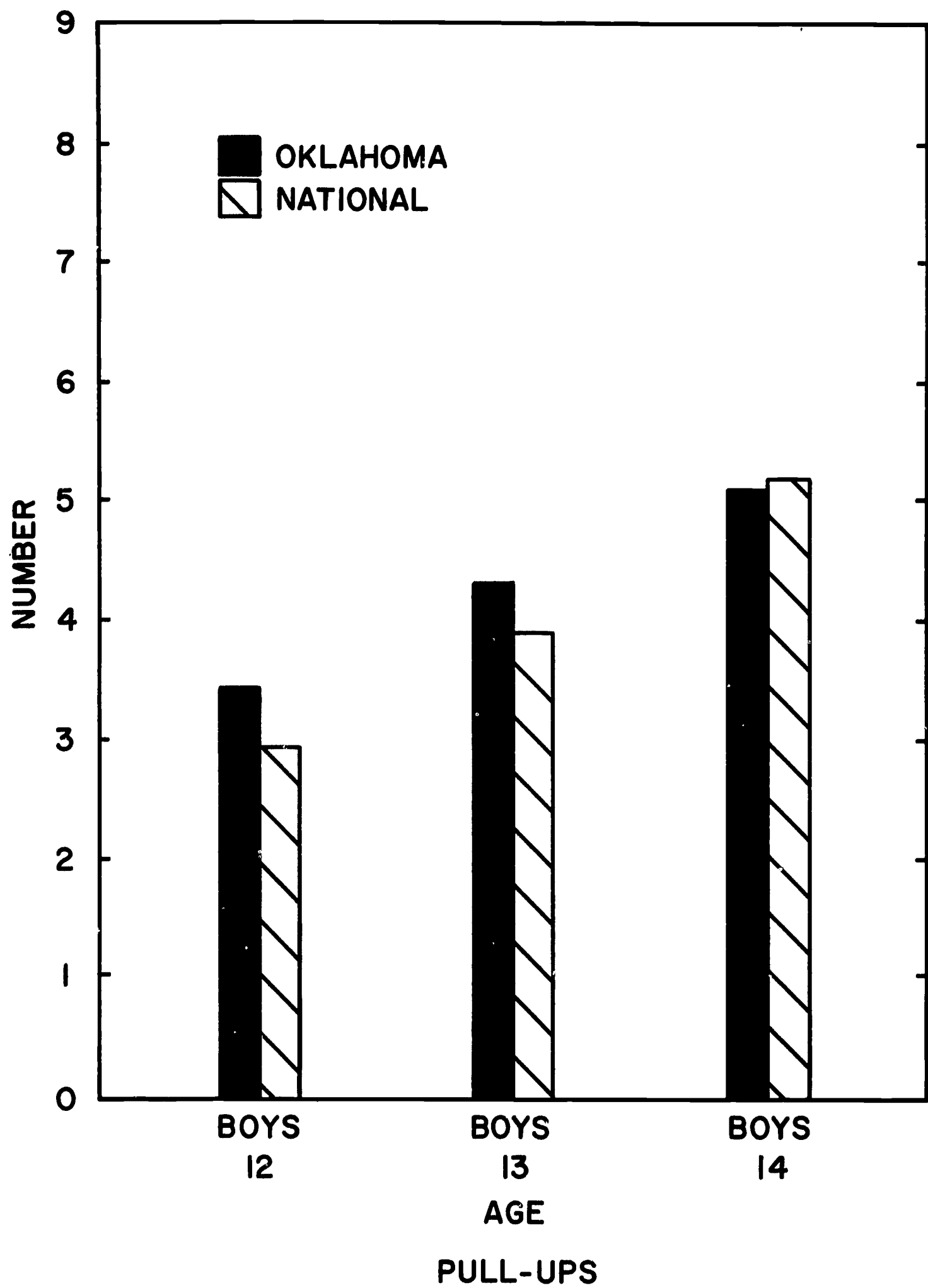


FIGURE 2

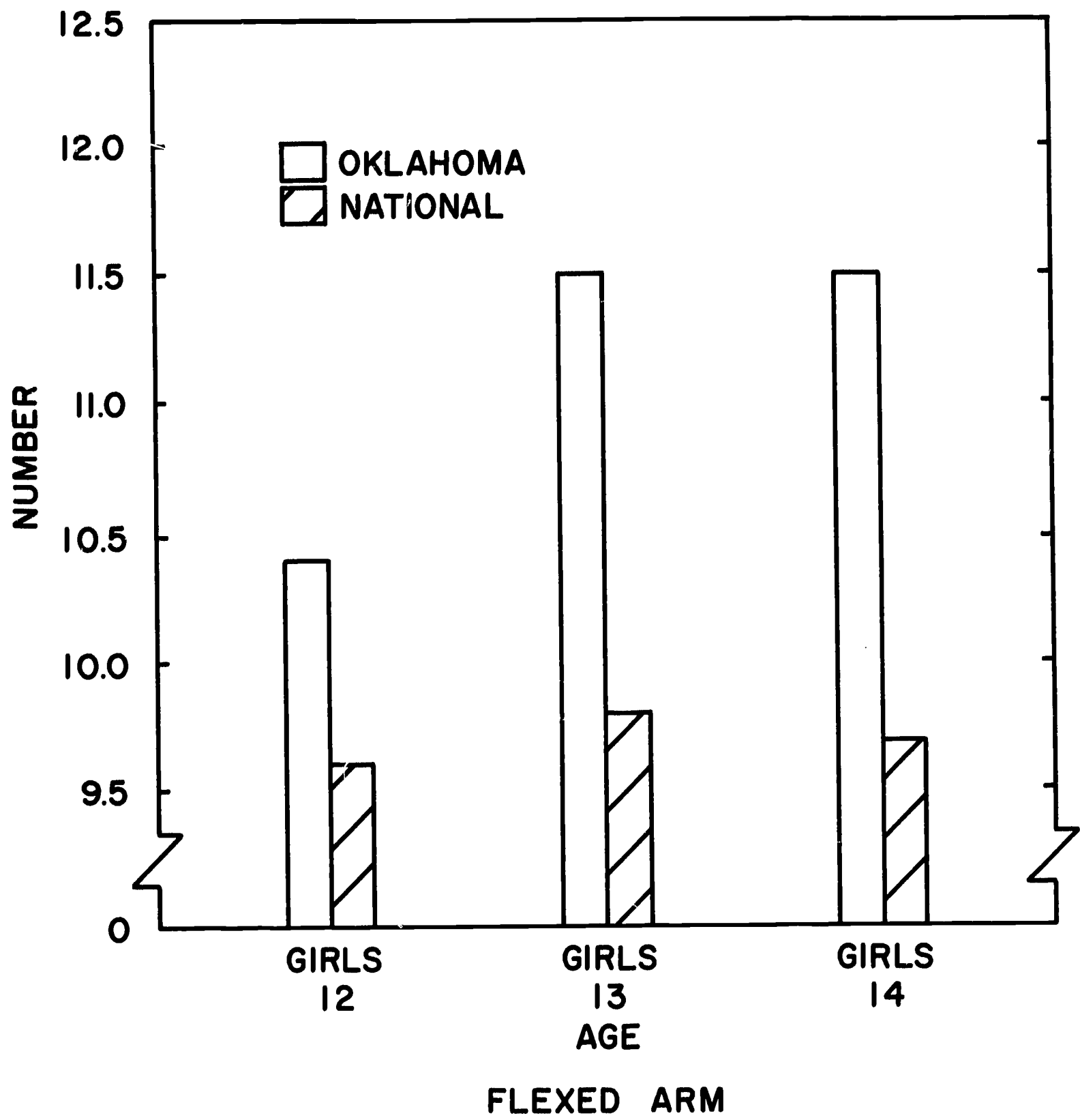


FIGURE 3

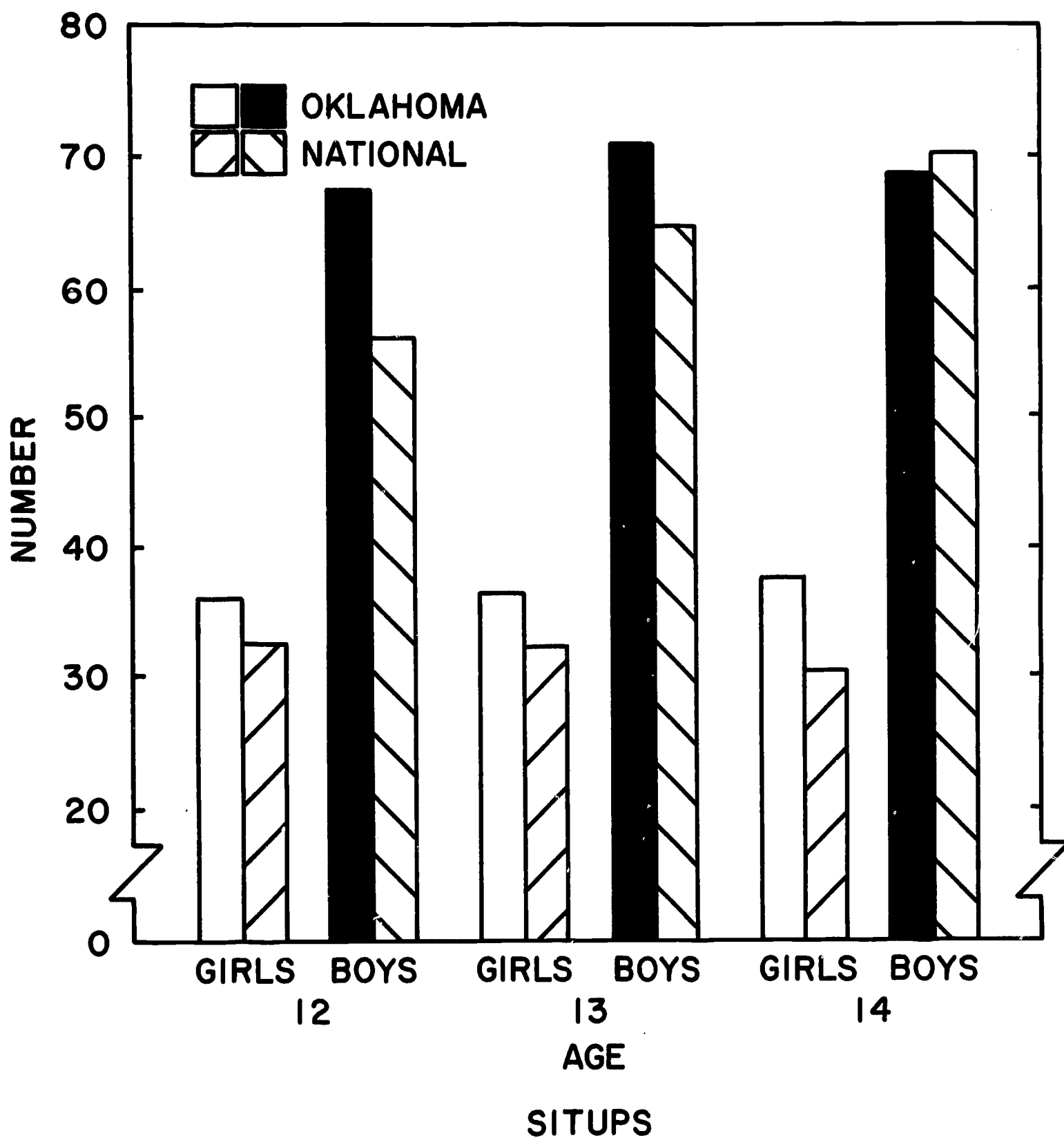


FIGURE 4

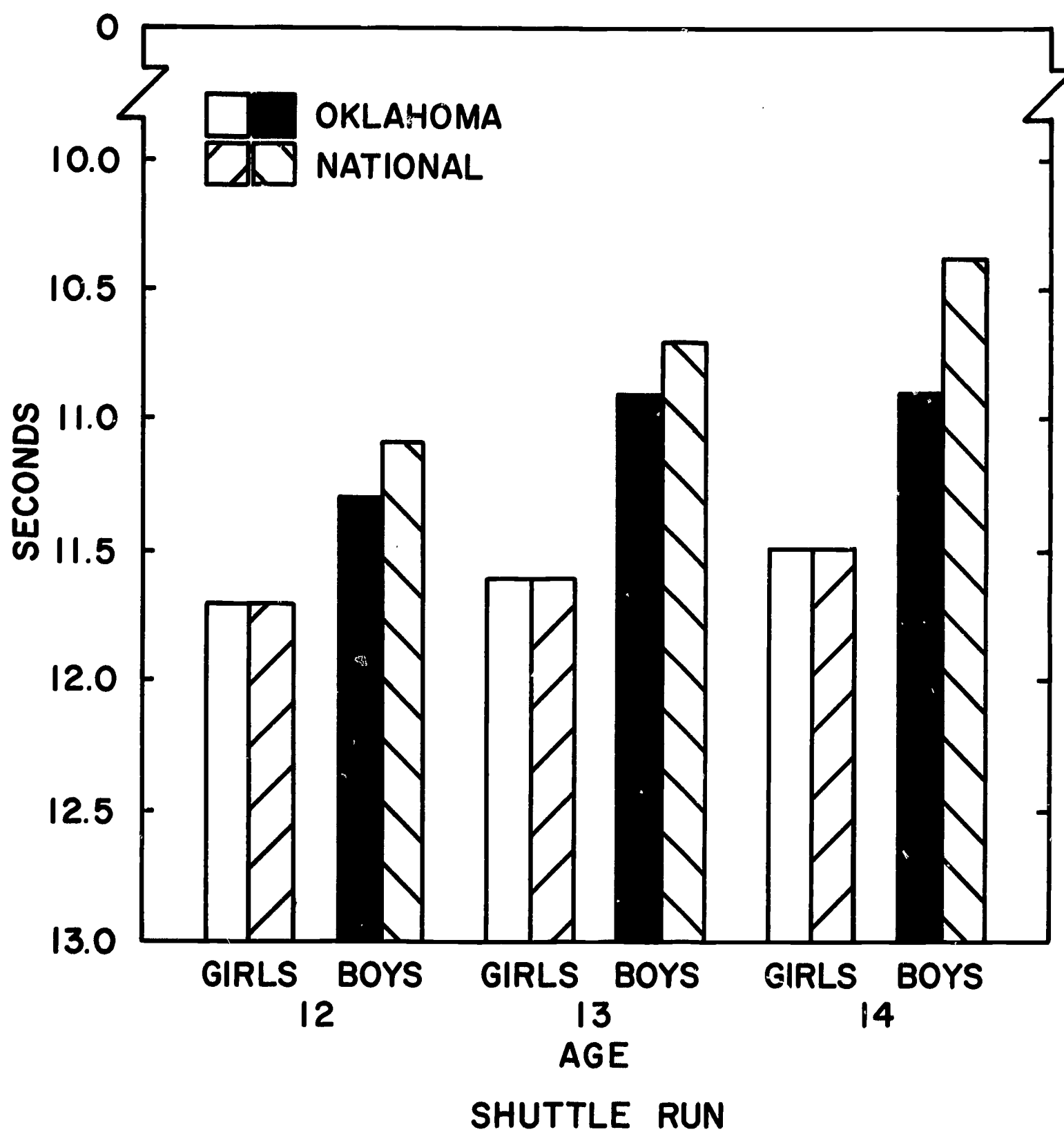


FIGURE 5

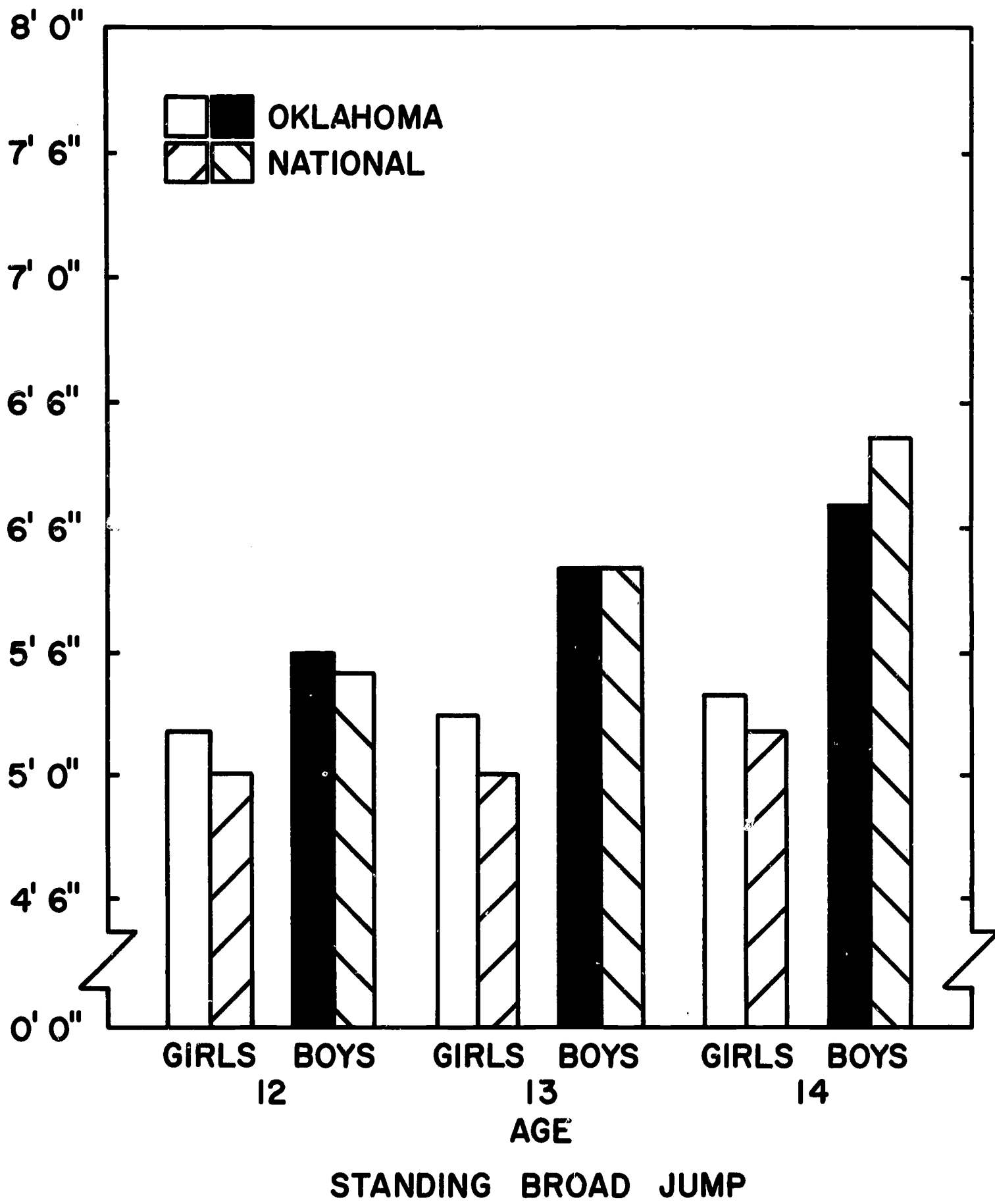


FIGURE 6

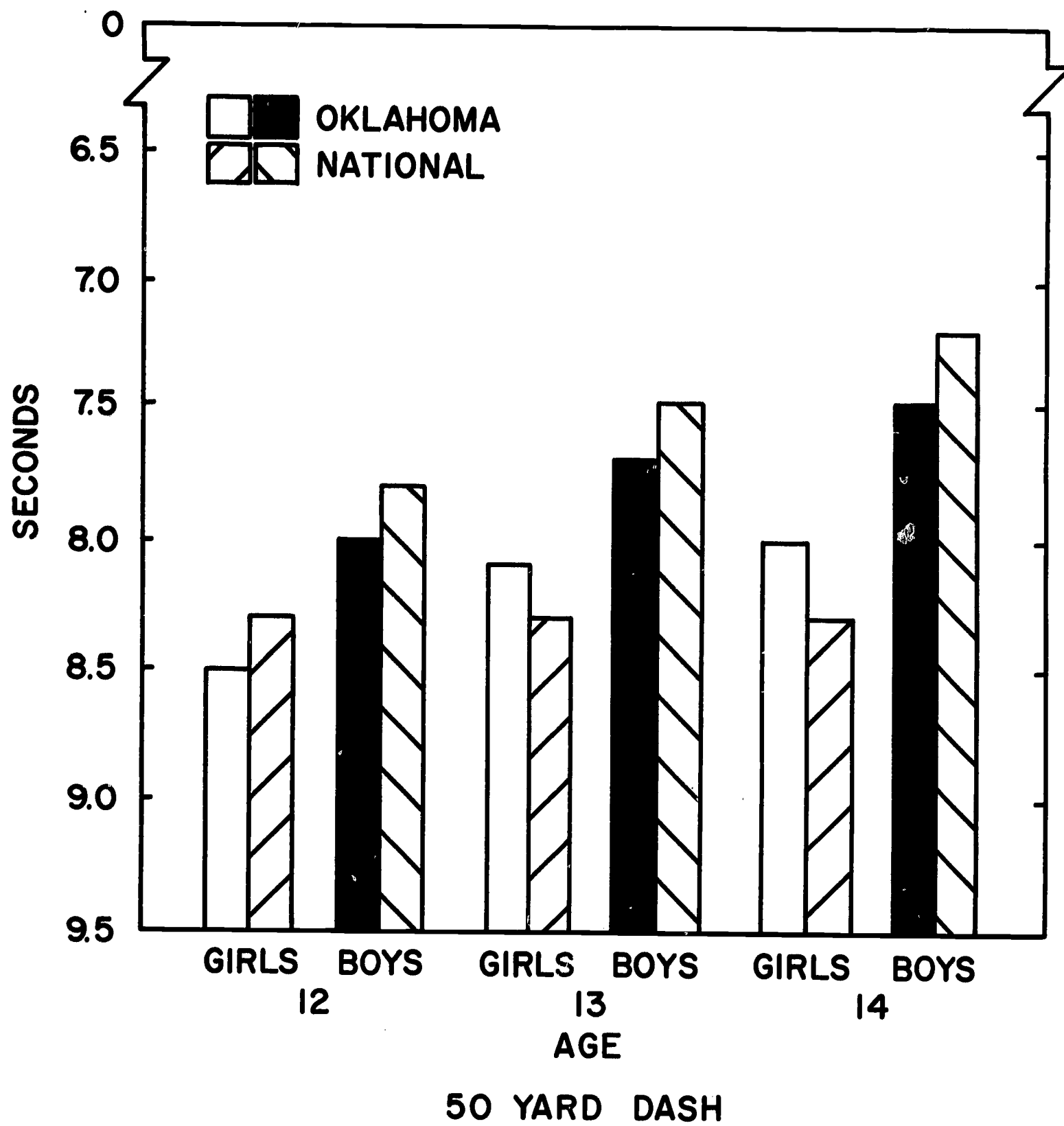


FIGURE 7

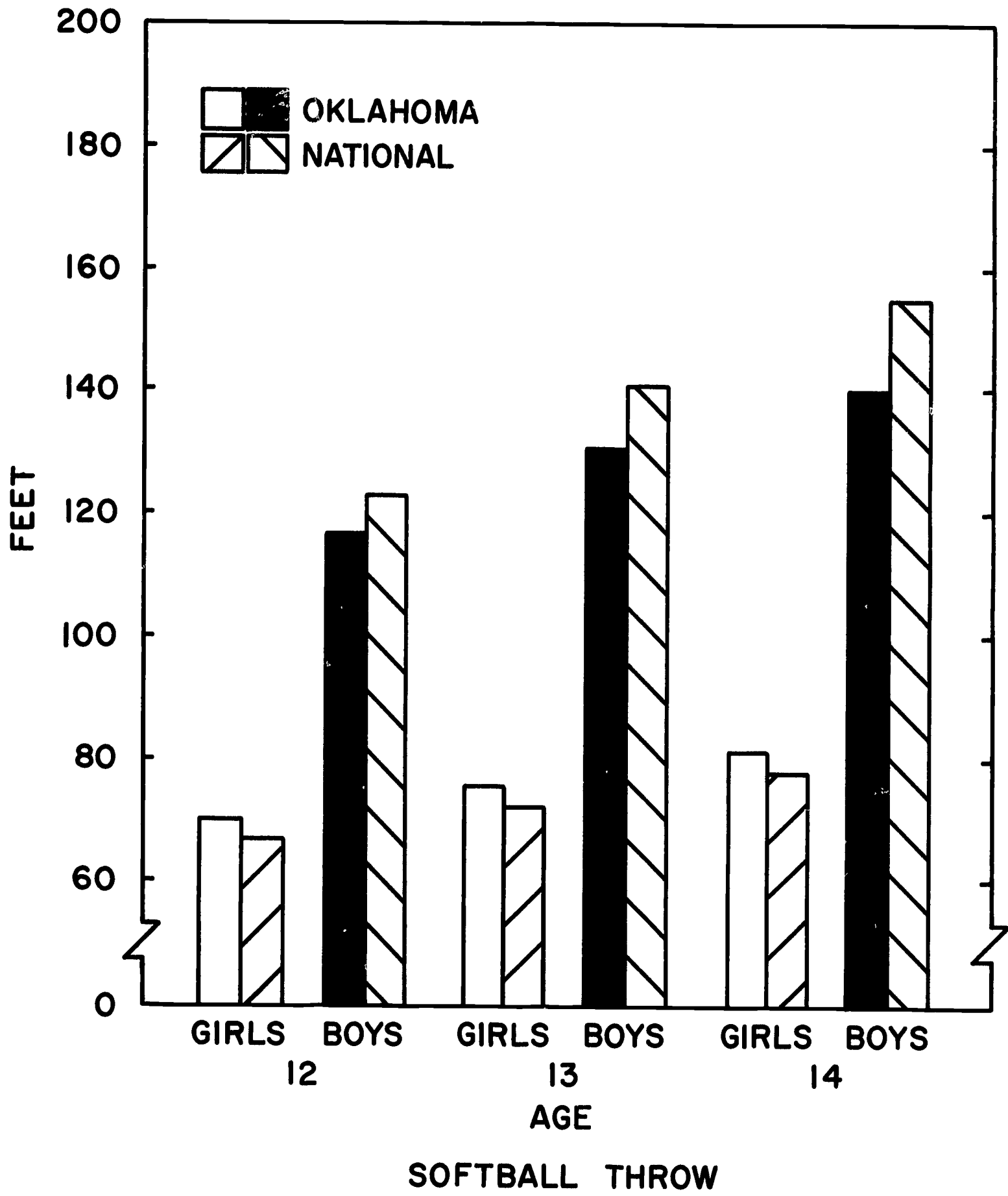
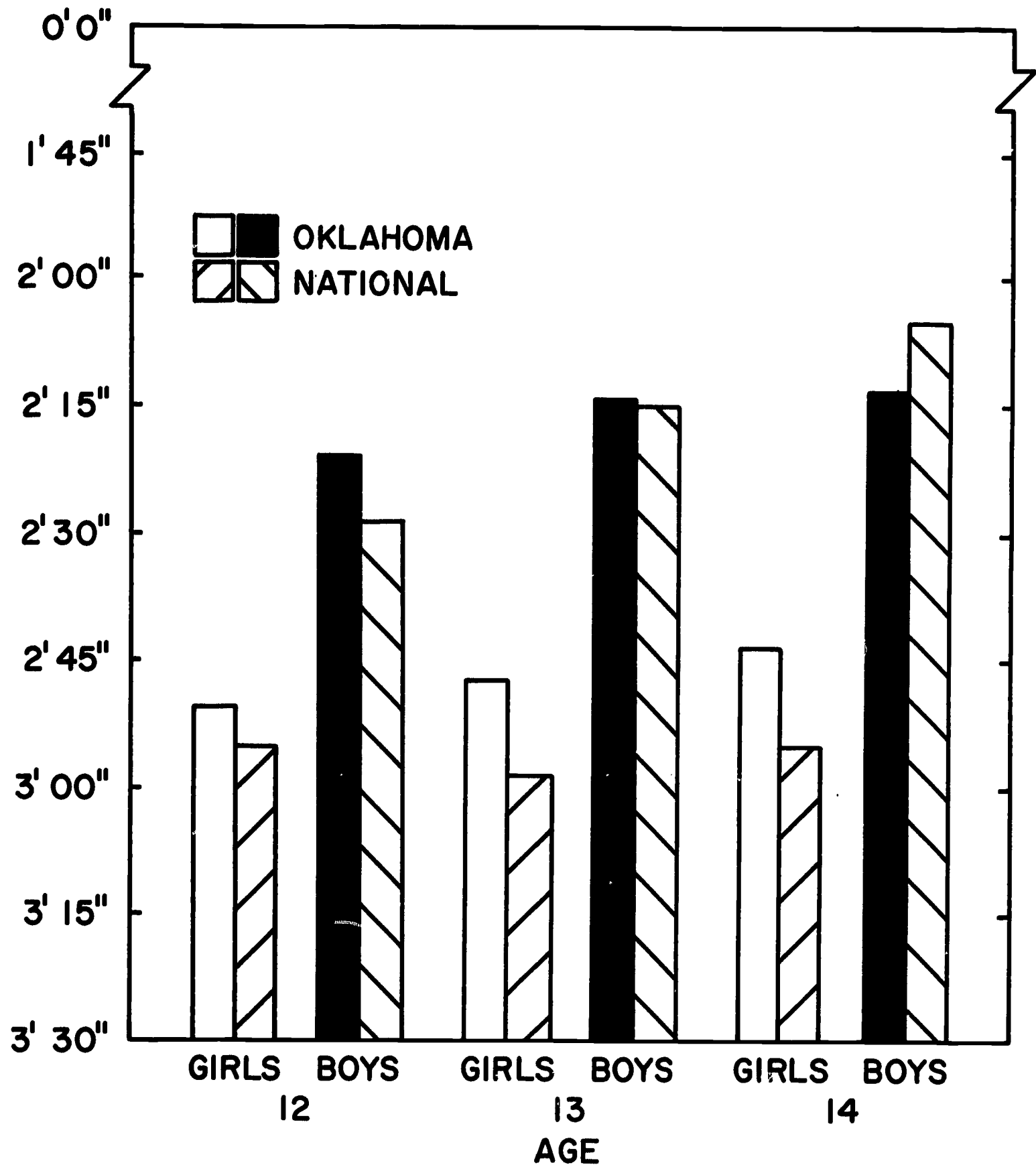


FIGURE 8



600 YARD RUN-WALK

TABLE 3

COMPARISON OF MEANS FOR BOYS DATA OKLAHOMA-NATIONAL
WITH STANDARD ERRORS OF DIFFERENCES

| Test | \bar{X}_O | SE_O | N_O | \bar{X}_n | SE_n | N_n | $\bar{X}_O - \bar{X}_n$ | S.E. Diff. |
|--------|-------------|--------|-------|-------------|--------|-------|-------------------------|---------------|
| PU-12 | 3.4 | .1 | 578 | 2.9 | .2 | 620 | .5 | .2* |
| SU-12 | 67.4 | 1.2 | 542 | 56.5 | 2.6 | 623 | 10.9 | 2.7* |
| SR-12 | 11.3 | .1 | 635 | 11.1 | .1 | 596 | -.2 | .1* |
| J-12 | 65.7 | .4 | 555 | 65.3 | .5 | 625 | .4 | .6 |
| 50-12 | 8.0 | .1 | 614 | 7.9 | .1 | 613 | -.1 | .1 |
| T-12 | 116.3 | 1.5 | 406 | 122.9 | 1.4 | 627 | -6.6 | 2.0* |
| 600-12 | 141.0 | .9 | 635 | 148.3 | 3.4 | 614 | 7.3 | 3.5* |
| PU-13 | 4.3 | .1 | 894 | 3.9 | .2 | 595 | .4 | .2* |
| SU-13 | 71.0 | 1.0 | 814 | 64.6 | 2.5 | 590 | 6.4 | 2.7* |
| SR-13 | 10.9 | .1 | 912 | 10.8 | .1 | 563 | -.1 | .1 |
| J-13 | 70.2 | .4 | 794 | 70.0 | .6 | 595 | .2 | .7 |
| 50-13 | 7.7 | -- | 867 | 7.5 | -- | 575 | -.2 | -- |
| T-13 | 130.7 | 1.3 | 665 | 141.2 | 1.7 | 588 | -10.5 | 2.1* |
| 600-13 | 134.4 | .9 | 921 | 135.5 | 2.7 | 578 | 1.1 | 2.8 |
| PU-14 | 5.1 | .2 | 329 | 5.2 | .3 | 548 | -.1 | .4 |
| SU-14 | 68.7 | 1.7 | 289 | 69.9 | 2.4 | 545 | -1.2 | 2.9 |
| SR-14 | 10.9 | .1 | 328 | 10.4 | .1 | 530 | -.5 | .1* |
| J-14 | 72.7 | .7 | 293 | 75.7 | .8 | 547 | -3.0 | 1.0* |
| 50-14 | 7.5 | .1 | 316 | 7.2 | .1 | 530 | -.3 | .1* |
| T-14 | 139.5 | 2.2 | 267 | 154.5 | 2.2 | 538 | -15.0 | 3.1* |
| 600-14 | 133.2 | 1.6 | 331 | 125.9 | 2.3 | 534 | -7.3 | 2.7* |

*Significant at 5% level.

Note: Negative differences between means indicate those test items on which the national means were higher than the Oklahoma means.

TABLE 4

COMPARISON OF MEANS FOR GIRLS DATA OKLAHOMA-NATIONAL
WITH STANDARD ERRORS OF DIFFERENCES

| Test | \bar{X}_O | SE_O | N_O | \bar{X}_n | SE_n | N_n | $\bar{X}_O - \bar{X}_n$ | S.E. Diff. |
|--------|-------------|--------|-------|-------------|--------|-------|-------------------------|---------------|
| SU-12 | 36.3 | .8 | 368 | 32.4 | 1.2 | 657 | 3.9 | 1.4* |
| SR-12 | 11.7 | .1 | 378 | 11.7 | .1 | 625 | 0.0 | .1 |
| J-12 | 62.4 | .5 | 384 | 59.9 | .6 | 652 | 2.5 | .8* |
| 50-12 | 8.5 | .1 | 341 | 8.3 | .1 | 641 | -.2 | .1* |
| T-12 | 68.7 | 1.3 | 331 | 66.8 | 2.1 | 655 | 1.9 | 2.5 |
| 600-12 | 171.0 | 1.7 | 357 | 175.0 | 3.8 | 652 | 4.0 | 4.1 |
| SU-13 | 36.8 | .6 | 553 | 32.2 | 1.4 | 593 | 4.6 | 1.5* |
| SR-13 | 11.6 | .1 | 574 | 11.6 | .1 | 571 | 0.0 | .1 |
| J-13 | 62.9 | .4 | 591 | 60.3 | .7 | 595 | 2.6 | .8* |
| 50-13 | 8.1 | .1 | 546 | 8.3 | .1 | 591 | .2 | .1* |
| T-13 | 76.7 | 1.0 | 542 | 71.9 | 1.9 | 598 | 4.8 | 2.1* |
| 600-13 | 166.8 | 1.3 | 546 | 178.2 | 4.0 | 593 | 11.4 | 4.2* |
| SU-14 | 37.7 | 1.1 | 184 | 30.4 | 1.5 | 564 | 7.3 | 1.8* |
| SR-14 | 11.5 | .1 | 194 | 11.5 | .1 | 546 | 0.0 | .1 |
| J-14 | 64.4 | .6 | 192 | 62.2 | .7 | 562 | 2.2 | .9* |
| 50-14 | 8.0 | .1 | 194 | 8.3 | .1 | 547 | .3 | .1* |
| T-14 | 80.8 | 1.8 | 192 | 77.0 | 1.5 | 565 | 3.8 | 2.3 |
| 600-14 | 164.4 | 2.4 | 178 | 175.3 | 4.8 | 552 | 10.9 | 5.3* |

*Significant at 5% level.

Note: Negative differences between means indicate those test items on which the national means were higher than the Oklahoma means.

the girls data show that Oklahoma girls in every tested age group had higher mean scores than the national sample of girls, with the exception of the 50-yard dash in the 12 year old group where the national sample had a higher mean score than the Oklahoma sample of girls.

Statistical comparisons of individual test items at each age level, using the .05 criterion level of significance, generated seven comparisons in which the national sample had a significantly higher mean score and eighteen comparisons in which the Oklahoma sample had higher mean scores. The total number of comparison for the entire sample of boys and girls was 38 in which the above 25 were statistically significant. In all cases (boys data only, girls data only, and boys and girls data combined) the number of significant findings was greater than would be expected as the result of chance ($P < .05$).

The boys data revealed that Oklahoma boys had significantly higher mean scores on the following tests: pull-up for 12 and 13 year olds; sit-ups for 12 and 13 year olds; and the 600-yard run-walk for the 12 year old age group. The national sample had significantly higher scores on the following comparisons; shuttle run for 12 and 14 year olds; standing broad jump for the 14 year olds; softball throw for the 12, 13, and 14 year olds; and 600-yard run-walk for the 14 year old group.

The girls data showed that Oklahoma girls had a higher mean score on all but one test item. However significance was found on only the following comparisons: sit-ups for 12, 13, and 14 year olds; standing broad jump for 12, 13, and 14 year olds; 50-yard dash for 13 and 14 year olds; softball throw for 13 year olds; and the 600-yard

run-walk for the 13 and 14 year old age groups. The only comparison in which the national sample of girls was higher and also significant was the 50-yard dash for the 12 year old age group.

Due to the large number of percentile tables, they were placed in the appendix to facilitate reading (See Appendix A).

CHAPTER IV

SUMMARY

Two of the most interesting problems to develop from the 1965 national survey and comparison of youth fitness were the questions of the possible differences in fitness levels of pupils from various sections of the country, and how applicable the developed national norms and data were for the evaluation of fitness levels when the scope of interest is limited to a smaller geographic entity such as a state.

The purposes of this study were to compare the fitness level of Oklahoma youth with that of the national sample used in the 1965 study on youth fitness, and to develop Oklahoma norms for the items tested. The problem of developing an instrument was non-existent because the same items and test administration instructions in the 1965 study were used for the present study. The main limitation of the present study was in scope. The national survey involved a multi-staged probability sample of students representative of the national public school student population, and covered grades 5 through 12 throughout the coterminous United States. The Oklahoma study employed a random stratified sampling technique in the selection of Oklahoma 7th and 8th graders, and was representative of the Oklahoma student population involved in physical education programs. Aside from the

differences in sampling, this study follows the same design as the 1958-1965 studies on youth fitness.

The primary channels of communication were by mail and telephone. Because of the familiarity of the test battery to Oklahoma teachers and the readily available testing and consultant staff for those schools willing to participate in the study but lacking facilities and/or personnel, it was deemed unnecessary to personally consult with each participating school unless they so requested.

The final stratified random sample of Oklahoma 7th and 8th graders, included 2000 boys and 1600 girls, which represented schools in 44 counties. A total of 135 schools in 77 counties were invited to participate in the study.

All the information requested which included test scores, participation in sports, school size, prior experience in physical education and other pertinent information, was precoded and transferred to IBM punch cards and tape from the test forms. The following analysis and statistical comparisons were made using an IBM 360 digital computer.

1. Percentile scores were developed from the scores of each test item for boys and girls in the 12, 13, and 14 year age groups.
2. Percentile scores were developed for boys and girls according to the Neilsen Cozen Classification Index.
3. Means and standard deviations of the test results were generated for both sexes in each tested age group.
4. Statistical comparisons of differences between the

means of the 1965 national data and the Oklahoma data were calculated.

5. Probabilities of obtaining the number of significant finding for the total number of comparisons were calculated.

Conclusion

The results of the present study indicate the following:

1. Oklahoma boys had higher mean scores on the following tests for 12 and 13 year olds:

- a. pull-up
- b. sit-up
- c. standing broad jump
- d. 600-yard run-walk.

Of these test items, the Oklahoma sample was significantly higher on the pull-up and sit-up for the 12 and 13 year olds, and on the 600-yard run-walk for the 12 year old group.

2. The 1965 national sample of boys had higher scores on all seven test items for the 14 year old group, and on the following test items for the 12 and 13 year olds;

- a. shuttle run
- b. 50-yard dash
- c. softball throw.

Of these test items, the national sample was significantly higher on the shuttle run for the 12 and 14 year olds,

standing broad jump for the 14 year olds, softball throw for the 12, 13, and 14 year olds, and 600-yard run-walk for the 14 year old group.

3. In 20 comparisons, the Oklahoma sample had significantly higher mean scores on 5 tests, while the national sample was significantly higher than the Oklahoma sample on 7 items. This made for a total finding of 12 significant findings in 20 total mean comparisons. The probability of obtaining 12 significant comparisons was less than .05.
4. Oklahoma girls had higher scores on all test items in all age groups with the exception of the 50-yard dash in the 12 year old age group where the national sample scored higher. Of all the tested items, the Oklahoma sample was significantly higher on the sit-up and standing broad jump for the 12, 13, and 14 year age groups, 50-yard dash for the 13 and 14 year olds, softball throw for the 13 year olds, and 600-yard run-walk for the 13 and 14 year old groups.
5. The national sample of girls was significantly higher on the 50-yard dash for the 12 year old group.
6. In 18 comparisons, the Oklahoma sample of girls had significantly higher scores than the national sample on 11 test items and the national sample was significant on 1. The probability of obtaining 12 significant findings in 18 comparisons was calculated to be less than .05.

7. The national sample of boys had higher mean scores on the two items that dealt with speed (shuttle run; 50-yard dash) and on the item that primarily dealt with skill and coordination (softball throw). Significance was obtained in 3 cases out of 5 comparison that dealt with speed, and in all the cases that dealt with the measurement of skill and coordination of throwing a softball for distance.
8. The 12 and 13 year old age group of Oklahoma students generally scored better than their comparable group in the national sample, while the Oklahoma group of 14 year olds scored lower than the comparable group in the national sample. Of a total of 13 comparisons, Oklahoma 12 and 13 year old students had higher mean scores on 8 and the national sample had higher mean scores on 5. Of these 8 comparisons the Oklahoma group was significantly higher in 5 cases. Of the 5 comparisons in which the national sample had higher mean scores, 3 cases were significant. In the 14 year old group, the national sample was significantly higher in 5 items out of a total 7 items tested.
9. The variability of the Oklahoma sample was comparable to that of the national sample, however, the Oklahoma sample generated lower standard errors in most cases.

Discussion

Of a total of 38 comparisons between Oklahoma and national means, 25 were found to be significantly different at or beyond the .05 level of significance. This greatly exceeded the number of significant differences that might be expected to occur due to chance. The implication of these findings is not the direction of differences, but that discrepancies do exist between locally generated data and nationally generated data. It seems reasonable that 25 significant differences out of a total of 38 comparisons would make one question the applicability of the national set of data to a smaller geographic entity such as an individual state. Many questions may arise as to the use of statistics to determine significance between means with small differences. Although significance may be found between means where a difference of a tenth of a second may exist, the importance of such differences must be determined by the individual teacher. Given a large enough number of subjects, it is possible to reject almost any null hypothesis no matter how small the difference between the means of each population. The teacher's focus may then be on the purposes for which the data will be used. In any case, local and national scores are now available to Oklahoma teachers. Theoretically it seems more desirable to generate one's own data when local controls are available so that the data best represents the population to which it will be applied; but given the expense of such data gathering, each investigator must decide for himself if the increase in applicability is worth the cost of generating new data. The authors conclude that the present findings indicate that the national study is not always

applicable to a local region. If one examines the norms it is evident that the Oklahoma subjects generated higher scores in most cases than did the comparable national subjects. The implication here is not that the Oklahoma subjects are better or more fit, it is simply that the national norms do not apply in some cases to the needs of a state or to the uniqueness of the program or population from which a state sample is drawn.

The explanation of the differences can most likely be attributed to the characteristics of the Oklahoma sample. First, it was drawn from schools that indicated a willingness to participate in the study. Second, the students involved were primarily involved in physical education programs. Finally, there is the methodology of sampling by a stratified random technique. The very nature of using self-selected subjects would indicate that those willing to be involved in the study would do better on the tests by eliminating many schools, particularly from small towns, which lack physical education facilities and programs. The involvement of students from physical education programs would also tend to eliminate many students who would score poorly. In addition, the methodology of stratified random selection does not necessarily insure representativeness, but does decrease variability on those strata used. Many of the differences found in the present study may be attributed to these three characteristics of the Oklahoma sample.

The question may arise as to why a different sampling technique was used compared to that used in the national study. The norms generated in this particular study most closely approximates the norms that

would be most often used by the population of students in Oklahoma. Those schools and counties that did not reply to this study are those that generally do not have programs of physical education and therefore would not use either the data generated in this study or that in the national study. Since a primary objective of this study was to serve that group of students that are involved in physical education, the present data seems most appropriate.

An examination of the boys' data reveals that the national sample scored higher on those items which involved speed. This particular result was somewhat surprising since it would seem that the variability of speed is a measure in which little if any difference would be found. No systematic variation that might account for this result is available except that the Oklahoma test items were almost all administered indoors. Any item involving speed might then be expected to differ due to the difference in running surface. The girls' data seem to indicate a different trend. This might be accounted for by the fact that the sample of girls was much smaller and a rough examination of the original data sheet indicates that the girls forms were completed with far more consistent accuracy and detail. This might indicate a self-selecting process involving those girls who scored well on the test. Unlike the boys, girls that did not score well on items might not have been required to finish the entire test battery.

The authors conclude that the applicability of national fitness norms to evaluate fitness programs in the state of Oklahoma is questionable. Whether national norms are applicable to other states still

remains to be answered. The source of variation of data is attributed to the characteristics of each group, however the conclusion that was reached in the 1965 study might be applied here. The factor of elapsed time between the two samples might account for differences in many cases due simply to the improvement of all 7th and 8th grade children. This question cannot be fully answered without concurrent studies on both a local and national basis.

A second question sought to be answered by this study was whether a larger study involving all grades should be conducted. The present study has shown statistical differences between the two samples which would imply that new data should be generated. However, it is recommended that before any full scale study is undertaken, the investigators should first determine whether the population to be studied is sufficiently interested and large enough to justify such a large study.

It is hoped that Oklahoma teachers will find the results of this study helpful, for the final worth and justification of any such study lies with those who might directly profit from the results.

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APPENDIX A

PERCENTILE TABLES

TABLE 1

PULL-UPS FOR BOYS
(Percentile Scores Based on Age)

| Percentile | Oklahoma Norms | | | National Norms | | | Percentile |
|------------|----------------|----|----|----------------|----|----|------------|
| | Age | | | Age | | | |
| | 12 | 13 | 14 | 12 | 13 | 14 | |
| 100th | 20 | 31 | 23 | 15 | 24 | 20 | 100th |
| 95th | 10 | 11 | 12 | 9 | 10 | 12 | 95th |
| 90th | 8 | 9 | 10 | 7 | 9 | 10 | 90th |
| 85th | 7 | 8 | 9 | 6 | 8 | 10 | 85th |
| 80th | 6 | 7 | 8 | 5 | 7 | 8 | 80th |
| 75th | 5 | 6 | 7 | 5 | 6 | 8 | 75th |
| 70th | 5 | 6 | 7 | 4 | 5 | 7 | 70th |
| 65th | 4 | 5 | 6 | 3 | 5 | 6 | 65th |
| 60th | 3 | 5 | 5 | 3 | 4 | 6 | 60th |
| 55th | 3 | 4 | 5 | 3 | 4 | 5 | 55th |
| 50th | 3 | 4 | 5 | 2 | 3 | 5 | 50th |
| 45th | 2 | 3 | 4 | 2 | 3 | 4 | 45th |
| 40th | 2 | 3 | 4 | 1 | 2 | 4 | 40th |
| 35th | 1 | 2 | 3 | 1 | 2 | 3 | 35th |
| 30th | 1 | 2 | 2 | 1 | 1 | 2 | 30th |
| 25th | 1 | 1 | 2 | 0 | 1 | 2 | 25th |
| 20th | 0 | 1 | 1 | 0 | 0 | 2 | 20th |
| 15th | 0 | 0 | 1 | 0 | 0 | 1 | 15th |
| 10th | 0 | 0 | 0 | 0 | 0 | 0 | 10th |
| 5th | 0 | 0 | 0 | 0 | 0 | 0 | 5th |
| 0th | 0 | 0 | 0 | 0 | 0 | 0 | 0th |

TABLE 2

SIT-UPS FOR BOYS
(Percentile Scores Based on Age)

| Percentile | Oklahoma Norms | | | National Norms | | | Percentile |
|------------|----------------|-----|-----|----------------|-----|-----|------------|
| | 12 | 13 | 14 | 12 | 13 | 14 | |
| 100th | 100 | 100 | 100 | 100 | 100 | 100 | 100th |
| 95th | 100 | 100 | 100 | 100 | 100 | 100 | 95th |
| 90th | 100 | 100 | 100 | 100 | 100 | 100 | 90th |
| 85th | 100 | 100 | 100 | 100 | 100 | 100 | 85th |
| 80th | 100 | 100 | 100 | 100 | 100 | 100 | 80th |
| 75th | 100 | 100 | 100 | 93 | 100 | 100 | 75th |
| 70th | 99 | 100 | 100 | 75 | 99 | 100 | 70th |
| 65th | 85 | 99 | 99 | 70 | 90 | 99 | 65th |
| 60th | 80 | 94 | 85 | 59 | 75 | 99 | 60th |
| 55th | 75 | 80 | 76 | 52 | 70 | 77 | 55th |
| 50th | 70 | 75 | 70 | 50 | 60 | 70 | 50th |
| 45th | 61 | 72 | 64 | 49 | 53 | 62 | 45th |
| 40th | 58 | 63 | 56 | 42 | 50 | 60 | 40th |
| 35th | 52 | 55 | 51 | 40 | 50 | 52 | 35th |
| 30th | 50 | 50 | 50 | 35 | 41 | 50 | 30th |
| 25th | 43 | 48 | 50 | 30 | 38 | 45 | 25th |
| 20th | 40 | 41 | 41 | 28 | 35 | 40 | 20th |
| 15th | 32 | 35 | 37 | 25 | 30 | 36 | 15th |
| 10th | 27 | 30 | 29 | 20 | 25 | 30 | 10th |
| 5th | 21 | 22 | 21 | 15 | 20 | 24 | 5th |
| 0th | 1 | 1 | 2 | 0 | 1 | 6 | 0th |

TABLE 3

SHUTTLE RUN FOR BOYS
(Percentile Scores Based on Age)

| Percen- tile | Oklahoma Norms | | | National Norms | | | Percen- tile |
|-----------------|----------------|------|------|----------------|------|------|-----------------|
| | Age | | | Age | | | |
| | 12 | 13 | 14 | 12 | 13 | 14 | |
| 100th | 7.5 | 7.5 | 8.2 | 8.5 | 8.0 | 8.3 | 100th |
| 95th | 9.6 | 9.4 | 9.3 | 9.8 | 9.5 | 9.3 | 95th |
| 90th | 9.9 | 9.6 | 9.5 | 10.0 | 9.8 | 9.5 | 90th |
| 85th | 10.0 | 9.8 | 9.6 | 10.0 | 9.9 | 9.6 | 85th |
| 80th | 10.2 | 10.0 | 9.8 | 10.2 | 10.0 | 9.8 | 80th |
| 75th | 10.4 | 10.0 | 9.9 | 10.3 | 10.1 | 9.9 | 75th |
| 70th | 10.5 | 10.1 | 10.0 | 10.5 | 10.2 | 9.9 | 70th |
| 65th | 10.6 | 10.3 | 10.1 | 10.6 | 10.3 | 10.0 | 65th |
| 60th | 10.8 | 10.4 | 10.2 | 10.7 | 10.4 | 10.0 | 60th |
| 55th | 11.0 | 10.5 | 10.4 | 10.9 | 10.5 | 10.2 | 55th |
| 50th | 11.0 | 10.7 | 10.5 | 11.0 | 10.6 | 10.2 | 50th |
| 45th | 11.1 | 10.8 | 10.6 | 11.0 | 10.8 | 10.3 | 45th |
| 40th | 11.3 | 11.0 | 10.8 | 11.1 | 10.9 | 10.5 | 40th |
| 35th | 11.5 | 11.0 | 11.0 | 11.3 | 11.0 | 10.5 | 35th |
| 30th | 11.6 | 11.2 | 11.1 | 11.5 | 11.1 | 10.7 | 30th |
| 25th | 11.9 | 11.4 | 11.4 | 11.6 | 11.3 | 10.9 | 25th |
| 20th | 12.0 | 11.6 | 11.8 | 11.9 | 11.5 | 11.0 | 20th |
| 15th | 12.3 | 12.0 | 12.0 | 12.0 | 11.8 | 11.2 | 15th |
| 10th | 12.8 | 12.4 | 12.3 | 12.4 | 12.0 | 11.5 | 10th |
| 5th | 13.2 | 13.4 | 13.3 | 13.0 | 12.5 | 12.0 | 5th |
| 0th | 22.0 | 20.0 | 23.0 | 22.0 | 16.0 | 16.0 | 0th |

TABLE 4

STANDING BROAD JUMP FOR BOYS
(Percentile Scores Based on Age)

| Percentile | Oklahoma Norms | | | National Norms | | | Percentile |
|------------|----------------|--------|--------|----------------|--------|--------|------------|
| | Age | | | Age | | | |
| | 12 | 13 | 14 | 12 | 13 | 14 | |
| 100th | 7' 6" | 8' 5" | 8' 5" | 7' 10" | 8' 9" | 8' 11" | 100th |
| 95th | 6' 10" | 7' 3" | 7' 4" | 6' 6" | 7' 2" | 7' 9" | 95th |
| 90th | 6' 6" | 6' 11" | 7' 0" | 6' 4" | 6' 11" | 7' 5" | 90th |
| 85th | 6' 3" | 6' 8" | 6' 11" | 6' 2" | 6' 9" | 7' 3" | 85th |
| 80th | 6' 2" | 6' 6" | 6' 9" | 6' 1" | 6' 7" | 7' 0" | 80th |
| 75th | 6' 0" | 6' 5" | 6' 7" | 6' 0" | 6' 5" | 6' 11" | 75th |
| 70th | 5' 11" | 6' 3" | 6' 6" | 5' 11" | 6' 3" | 6' 9" | 70th |
| 65th | 5' 10" | 6' 2" | 6' 4" | 5' 9" | 6' 1" | 6' 8" | 65th |
| 60th | 5' 8" | 6' 0" | 6' 3" | 5' 8" | 6' 0" | 6' 7" | 60th |
| 55th | 5' 7" | 6' 0" | 6' 2" | 5' 7" | 5' 11" | 6' 6" | 55th |
| 50th | 5' 6" | 5' 11" | 6' 1" | 5' 6" | 5' 10" | 6' 4" | 50th |
| 45th | 5' 5" | 5' 9" | 6' 0" | 5' 5" | 5' 9" | 6' 3" | 45th |
| 40th | 5' 4" | 5' 8" | 5' 10" | 5' 4" | 5' 7" | 6' 1" | 40th |
| 35th | 5' 2" | 5' 7" | 5' 9" | 5' 2" | 5' 6" | 6' 0" | 35th |
| 30th | 5' 1" | 5' 6" | 5' 8" | 5' 1" | 5' 5" | 5' 10" | 30th |
| 25th | 5' 0" | 5' 4" | 5' 6" | 5' 0" | 5' 3" | 5' 8" | 25th |
| 20th | 4' 10" | 5' 3" | 5' 4" | 4' 10" | 5' 2" | 5' 6" | 20th |
| 15th | 4' 7" | 5' 0" | 5' 2" | 4' 8" | 5' 0" | 5' 4" | 15th |
| 10th | 4' 5" | 4' 10" | 5' 0" | 4' 5" | 4' 9" | 5' 2" | 10th |
| 5th | 4' 2" | 4' 6" | 4' 9" | 4' 2" | 4' 5" | 4' 11" | 5th |
| 0th | 3' 0" | 3' 2" | 3' 0" | 3' 0" | 2' 9" | 3' 8" | 0th |

TABLE 5

50-YARD DASH FOR BOYS
(Percentile Scores Based on Age)

| Percentile | Oklahoma Norms | | | National Norms | | | Percentile |
|------------|----------------|------|------|----------------|------|------|------------|
| | Age | | | Age | | | |
| | 12 | 13 | 14 | 12 | 13 | 14 | |
| 100th | 6.0 | 5.5 | 5.5 | 6.0 | 5.8 | 5.8 | 100th |
| 95th | 7.0 | 6.5 | 6.3 | 6.8 | 6.5 | 6.3 | 95th |
| 90th | 7.1 | 6.8 | 6.5 | 7.0 | 6.7 | 6.4 | 90th |
| 85th | 7.2 | 6.9 | 6.7 | 7.0 | 6.9 | 6.6 | 85th |
| 80th | 7.3 | 7.0 | 6.8 | 7.2 | 7.0 | 6.7 | 80th |
| 75th | 7.4 | 7.1 | 6.9 | 7.3 | 7.0 | 6.8 | 75th |
| 70th | 7.5 | 7.2 | 7.0 | 7.5 | 7.1 | 6.9 | 70th |
| 65th | 7.6 | 7.2 | 7.0 | 7.5 | 7.2 | 7.0 | 65th |
| 60th | 7.7 | 7.3 | 7.1 | 7.6 | 7.3 | 7.0 | 60th |
| 55th | 7.8 | 7.4 | 7.2 | 7.8 | 7.4 | 7.0 | 55th |
| 50th | 7.8 | 7.5 | 7.3 | 7.8 | 7.5 | 7.1 | 50th |
| 45th | 7.9 | 7.6 | 7.4 | 7.9 | 7.5 | 7.2 | 45th |
| 40th | 8.0 | 7.7 | 7.5 | 8.0 | 7.6 | 7.2 | 40th |
| 35th | 8.1 | 7.8 | 7.6 | 8.0 | 7.7 | 7.3 | 35th |
| 30th | 8.2 | 7.9 | 7.8 | 8.2 | 7.9 | 7.5 | 30th |
| 25th | 8.3 | 8.0 | 8.0 | 8.3 | 8.0 | 7.6 | 25th |
| 20th | 8.5 | 8.2 | 8.1 | 8.4 | 8.0 | 7.8 | 20th |
| 15th | 8.8 | 8.4 | 8.4 | 8.6 | 8.2 | 8.0 | 15th |
| 10th | 9.0 | 8.7 | 8.6 | 8.9 | 8.4 | 8.1 | 10th |
| 5th | 9.5 | 9.1 | 9.0 | 9.2 | 8.9 | 8.6 | 5th |
| 0th | 12.0 | 12.0 | 11.2 | 12.0 | 11.1 | 11.6 | 0th |

TABLE 6

SOFTBALL THROW FOR BOYS
(Percentile Scores Based on Age)

| Percen- tile | Oklahoma Norms | | | National Norms | | | Percen- tile |
|-----------------|----------------|-----|-----|----------------|-----|-----|-----------------|
| | Age | | | Age | | | |
| | 12 | 13 | 14 | 12 | 13 | 14 | |
| 100th | 204 | 240 | 290 | 207 | 245 | 246 | 100th |
| 95th | 165 | 184 | 195 | 165 | 195 | 208 | 95th |
| 90th | 154 | 171 | 183 | 156 | 183 | 195 | 90th |
| 85th | 146 | 162 | 175 | 150 | 175 | 187 | 85th |
| 80th | 138 | 156 | 168 | 145 | 168 | 181 | 80th |
| 75th | 134 | 151 | 162 | 141 | 163 | 176 | 75th |
| 70th | 130 | 147 | 155 | 136 | 157 | 172 | 70th |
| 65th | 127 | 141 | 152 | 133 | 152 | 168 | 65th |
| 60th | 124 | 138 | 147 | 129 | 147 | 165 | 60th |
| 55th | 120 | 135 | 142 | 124 | 142 | 160 | 55th |
| 50th | 119 | 132 | 138 | 120 | 140 | 155 | 50th |
| 45th | 116 | 128 | 135 | 119 | 135 | 150 | 45th |
| 40th | 112 | 124 | 132 | 115 | 131 | 146 | 40th |
| 35th | 105 | 120 | 129 | 112 | 128 | 141 | 35th |
| 30th | 101 | 117 | 125 | 110 | 125 | 138 | 30th |
| 25th | 98 | 113 | 120 | 106 | 120 | 133 | 25th |
| 20th | 94 | 109 | 117 | 103 | 115 | 127 | 20th |
| 15th | 90 | 102 | 110 | 97 | 110 | 122 | 15th |
| 10th | 80 | 94 | 99 | 92 | 101 | 112 | 10th |
| 5th | 61 | 72 | 82 | 76 | 88 | 102 | 5th |
| 0th | 20 | 22 | 33 | 25 | 50 | 31 | 0th |

TABLE 7

600 RUN-WALK FOR BOYS
(Percentile Scores Based on Age)

| Percentile | Oklahoma Norms | | | National Norms | | | Percentile |
|------------|----------------|-------|-------|----------------|-------|-------|------------|
| | Age | | | Age | | | |
| | 12 | 13 | 14 | 12 | 13 | 14 | |
| 100th | 1'28" | 1'15" | 1'27" | 1'31" | 1'29" | 1'25" | 100th |
| 95th | 1'51" | 1'45" | 1'43" | 1'52" | 1'46" | 1'37" | 95th |
| 90th | 1'58" | 1'50" | 1'46" | 2' 0" | 1'50" | 1'42" | 90th |
| 85th | 2' 1" | 1'54" | 1'48" | 2' 2" | 1'53" | 1'46" | 85th |
| 80th | 2' 4" | 1'56" | 1'52" | 2' 5" | 1'55" | 1'48" | 80th |
| 75th | 2' 6" | 2' 0" | 1'57" | 1' 9" | 1'59" | 1'51" | 75th |
| 70th | 2' 8" | 2' 1" | 2' 0" | 2'11" | 2' 1" | 1'53" | 70th |
| 65th | 2'10" | 2' 3" | 2' 2" | 2'13" | 2' 3" | 1'55" | 65th |
| 60th | 2'13" | 2' 5" | 2' 4" | 2'15" | 2' 5" | 1'57" | 60th |
| 55th | 2'15" | 2' 8" | 2' 6" | 2'18" | 2' 7" | 1'59" | 55th |
| 50th | 2'17" | 2'10" | 2' 8" | 2'21" | 2'10" | 2' 1" | 50th |
| 45th | 2'19" | 2'12" | 2'10" | 2'24" | 2'12" | 2' 3" | 45th |
| 40th | 2'22" | 2'14" | 2'13" | 2'26" | 2'15" | 2' 5" | 40th |
| 35th | 2'25" | 2'17" | 2'15" | 2'30" | 2'17" | 2' 9" | 35th |
| 30th | 2'28" | 2'19" | 2'18" | 2'34" | 2'22" | 2'11" | 30th |
| 25th | 2'31" | 2'22" | 2'20" | 2'39" | 2'25" | 2'14" | 25th |
| 20th | 2'36" | 2'26" | 2'26" | 2'47" | 2'30" | 2'19" | 20th |
| 15th | 2'43" | 2'32" | 2'31" | 2'57" | 2'35" | 2'25" | 15th |
| 10th | 2'50" | 2'42" | 2'40" | 3' 8" | 2'45" | 2'33" | 10th |
| 5th | 3' 1" | 3' 0" | 3' 1" | 3'32" | 3' 3" | 2'47" | 5th |
| 0th | 5' 0" | 7'20" | 5' 5" | 4'55" | 5'14" | 5'10" | 0th |

TABLE 8

FLEXED ARM HANG FOR GIRLS
(Percentile Scores Based on Age)

| Percentile | Oklahoma Norms | | | National Norms | | | Percentile |
|------------|----------------|----|----|----------------|----|----|------------|
| | Age | | | Age | | | |
| | 12 | 13 | 14 | 12 | 13 | 14 | |
| 100th | 46 | 90 | 31 | 64 | 80 | 60 | 100th |
| 95th | 27 | 25 | 20 | 30 | 30 | 30 | 95th |
| 90th | 20 | 20 | 20 | 23 | 21 | 22 | 90th |
| 85th | 20 | 20 | 20 | 19 | 18 | 19 | 85th |
| 80th | 20 | 20 | 20 | 15 | 15 | 16 | 80th |
| 75th | 17 | 19 | 20 | 13 | 13 | 13 | 75th |
| 70th | 14 | 17 | 19 | 11 | 12 | 11 | 70th |
| 65th | 13 | 15 | 18 | 10 | 10 | 10 | 65th |
| 60th | 11 | 14 | 16 | 8 | 9 | 9 | 60th |
| 55th | 10 | 12 | 13 | 8 | 8 | 8 | 55th |
| 50th | 9 | 10 | 11 | 6 | 7 | 7 | 50th |
| 45th | 8 | 9 | 9 | 6 | 6 | 6 | 45th |
| 40th | 7 | 8 | 8 | 5 | 5 | 5 | 40th |
| 35th | 6 | 6 | 7 | 4 | 4 | 4 | 35th |
| 30th | 5 | 5 | 5 | 3 | 3 | 3 | 30th |
| 25th | 4 | 4 | 4 | 2 | 2 | 2 | 25th |
| 20th | 3 | 3 | 3 | 1 | 2 | 1 | 20th |
| 15th | 1 | 2 | 2 | 0 | 1 | 1 | 15th |
| 10th | 0 | 1 | 1 | 0 | 0 | 0 | 10th |
| 5th | 0 | 0 | 0 | 0 | 0 | 0 | 5th |
| 0th | 0 | 0 | 0 | 0 | 0 | 0 | 0th |

TABLE 9

SIT-UPS FOR GIRLS
(Percentile Scores Based on Age)

| Percentile | Oklahoma Norms | | | National Norms | | | Percentile |
|------------|----------------|----|----|----------------|----|----|------------|
| | Age | | | Age | | | |
| | 12 | 13 | 14 | 12 | 13 | 14 | |
| 100th | 50 | 50 | 50 | 50 | 50 | 50 | 100th |
| 95th | 50 | 50 | 50 | 50 | 50 | 50 | 95th |
| 90th | 50 | 50 | 50 | 50 | 50 | 50 | 90th |
| 85th | 50 | 50 | 50 | 50 | 50 | 50 | 85th |
| 80th | 50 | 50 | 50 | 50 | 50 | 49 | 80th |
| 75th | 50 | 50 | 50 | 50 | 50 | 42 | 75th |
| 70th | 50 | 50 | 50 | 50 | 45 | 37 | 70th |
| 65th | 50 | 50 | 50 | 40 | 40 | 35 | 65th |
| 60th | 50 | 50 | 50 | 39 | 38 | 34 | 60th |
| 55th | 46 | 50 | 50 | 35 | 35 | 31 | 55th |
| 50th | 41 | 45 | 49 | 32 | 31 | 30 | 50th |
| 45th | 36 | 37 | 40 | 30 | 30 | 27 | 45th |
| 40th | 33 | 33 | 35 | 26 | 27 | 25 | 40th |
| 35th | 30 | 30 | 31 | 25 | 25 | 23 | 35th |
| 30th | 26 | 27 | 30 | 22 | 22 | 21 | 30th |
| 25th | 23 | 24 | 25 | 20 | 20 | 20 | 25th |
| 20th | 20 | 20 | 21 | 18 | 19 | 18 | 20th |
| 15th | 18 | 19 | 20 | 16 | 15 | 16 | 15th |
| 10th | 15 | 15 | 17 | 13 | 12 | 13 | 10th |
| 5th | 12 | 10 | 14 | 7 | 10 | 10 | 5th |
| 0th | 1 | 2 | 6 | 0 | 0 | 0 | 0th |

TABLE 10

SHUTTLE RUN FOR GIRLS
(Percentile Scores Based on Age)

| Percentile | Oklahoma Norms | | | National Norms | | | Percentile |
|------------|----------------|------|------|----------------|------|------|------------|
| | Age | | | Age | | | |
| | 12 | 13 | 14 | 12 | 13 | 14 | |
| 100th | 9.0 | 8.6 | 8.2 | 9.0 | 8.3 | 9.0 | 100th |
| 95th | 10.2 | 9.9 | 9.9 | 10.0 | 10.0 | 10.0 | 95th |
| 90th | 10.5 | 10.1 | 10.1 | 10.2 | 10.2 | 10.3 | 90th |
| 85th | 10.6 | 10.3 | 10.2 | 10.5 | 10.5 | 10.4 | 85th |
| 80th | 10.8 | 10.4 | 10.4 | 10.8 | 10.6 | 10.5 | 80th |
| 75th | 10.9 | 10.5 | 10.4 | 10.9 | 10.8 | 10.6 | 75th |
| 70th | 11.0 | 10.7 | 10.5 | 11.0 | 11.0 | 10.8 | 70th |
| 65th | 11.0 | 10.8 | 10.6 | 11.2 | 11.0 | 10.9 | 65th |
| 60th | 11.1 | 11.0 | 10.7 | 11.3 | 11.1 | 11.0 | 60th |
| 55th | 11.2 | 11.0 | 11.0 | 11.5 | 11.3 | 11.1 | 55th |
| 50th | 11.4 | 11.2 | 11.0 | 11.6 | 11.4 | 11.3 | 50th |
| 45th | 11.5 | 11.4 | 11.2 | 11.8 | 11.6 | 11.4 | 45th |
| 40th | 11.8 | 11.5 | 11.3 | 11.9 | 11.8 | 11.5 | 40th |
| 35th | 11.9 | 11.6 | 11.5 | 12.0 | 12.0 | 11.7 | 35th |
| 30th | 12.0 | 11.8 | 11.6 | 12.1 | 12.0 | 12.0 | 30th |
| 25th | 12.1 | 12.0 | 12.0 | 12.3 | 12.2 | 12.0 | 25th |
| 20th | 12.3 | 12.3 | 12.3 | 12.5 | 12.5 | 12.3 | 20th |
| 15th | 12.6 | 12.8 | 12.6 | 12.9 | 13.0 | 12.6 | 15th |
| 10th | 13.0 | 13.4 | 13.0 | 13.2 | 13.3 | 13.1 | 10th |
| 5th | 13.7 | 14.6 | 14.8 | 13.9 | 14.0 | 13.9 | 5th |
| 0th | 26.5 | 27.0 | 19.5 | 19.8 | 18.5 | 17.6 | 0th |

TABLE 11

STANDING BROAD JUMP FOR GIRLS
(Percentile Scores Based on Age)

| Percentile | Oklahoma Norms | | | National Norms | | | Percentile |
|------------|----------------|--------|--------|----------------|--------|--------|------------|
| | Age | | | Age | | | |
| | 12 | 13 | 14 | 12 | 13 | 14 | |
| 100th | 8' 6" | 8' 0" | 7' 0" | 8' 2" | 7' 6" | 7' 4" | 100th |
| 95th | 6' 6" | 6' 5" | 6' 6" | 6' 3" | 6' 3" | 6' 4" | 95th |
| 90th | 6' 3" | 6' 2" | 6' 4" | 6' 3" | 6' 0" | 6' 2" | 90th |
| 85th | 6' 0" | 6' 0" | 6' 2" | 5' 9" | 5' 10" | 6' 0" | 85th |
| 80th | 5' 10" | 5' 11" | 6' 1" | 5' 8" | 5' 8" | 5' 10" | 80th |
| 75th | 5' 8" | 5' 10" | 6' 0" | 5' 6" | 5' 6" | 5' 9" | 75th |
| 70th | 5' 6" | 5' 8" | 5' 11" | 5' 5" | 5' 5" | 5' 7" | 70th |
| 65th | 5' 5" | 5' 6" | 5' 10" | 5' 4" | 5' 4" | 5' 6" | 65th |
| 60th | 5' 4" | 5' 5" | 5' 8" | 5' 2" | 5' 3" | 5' 5" | 60th |
| 55th | 5' 3" | 5' 4" | 5' 6" | 5' 1" | 5' 2" | 5' 4" | 55th |
| 50th | 5' 2" | 5' 3" | 5' 5" | 5' 0" | 5' 0" | 5' 3" | 50th |
| 45th | 5' 1" | 5' 2" | 5' 3" | 4' 11" | 5' 0" | 5' 1" | 45th |
| 40th | 5' 0" | 5' 1" | 5' 2" | 4' 9" | 4' 10" | 5' 0" | 40th |
| 35th | 5' 0" | 5' 0" | 5' 1" | 4' 8" | 4' 8" | 5' 0" | 35th |
| 30th | 4' 10" | 5' 0" | 5' 0" | 4' 7" | 4' 6" | 4' 9" | 30th |
| 25th | 4' 8" | 4' 10" | 4' 11" | 4' 5" | 4' 6" | 4' 8" | 25th |
| 20th | 4' 6" | 4' 8" | 4' 8" | 4' 4" | 4' 4" | 4' 6" | 20th |
| 15th | 4' 5" | 4' 6" | 4' 7" | 4' 2" | 4' 2" | 4' 3" | 15th |
| 10th | 4' 3" | 4' 2" | 4' 5" | 4' 0" | 4' 0" | 4' 1" | 10th |
| 5th | 4' 0" | 3' 11" | 4' 2" | 3' 8" | 3' 9" | 3' 10" | 5th |
| 0th | 2' 5" | 2' 9" | 3' 6" | 2' 11" | 2' 11" | 3' 0" | 0th |

TABLE 12

50-YARD DASH FOR GIRLS
(Percentile Scores Based on Age)

| Percen- tile | Oklahoma Norms | | | National Norms | | | Percen- tile |
|-----------------|----------------|------|------|----------------|------|------|-----------------|
| | Age | | | Age | | | |
| | 12 | 13 | 14 | 12 | 13 | 14 | |
| 100th | 6.9 | 6.3 | 6.0 | 5.9 | 6.0 | 6.0 | 100th |
| 95th | 7.3 | 7.0 | 6.8 | 7.0 | 7.0 | 7.0 | 95th |
| 90th | 7.4 | 7.1 | 7.0 | 7.3 | 7.3 | 7.2 | 90th |
| 85th | 7.6 | 7.3 | 7.0 | 7.5 | 7.5 | 7.4 | 85th |
| 80th | 7.7 | 7.4 | 7.1 | 7.6 | 7.6 | 7.5 | 80th |
| 75th | 7.9 | 7.5 | 7.3 | 7.8 | 7.7 | 7.6 | 75th |
| 70th | 8.0 | 7.5 | 7.3 | 7.9 | 7.8 | 7.7 | 70th |
| 65th | 8.0 | 7.6 | 7.4 | 8.0 | 7.9 | 7.8 | 65th |
| 60th | 8.2 | 7.8 | 7.5 | 8.0 | 8.0 | 7.9 | 60th |
| 55th | 8.2 | 7.9 | 7.7 | 8.1 | 8.0 | 8.0 | 55th |
| 50th | 8.4 | 8.0 | 7.8 | 8.2 | 8.1 | 8.0 | 50th |
| 45th | 8.5 | 8.0 | 8.0 | 8.3 | 8.2 | 8.2 | 45th |
| 40th | 8.5 | 8.1 | 8.0 | 8.4 | 8.4 | 8.3 | 40th |
| 35th | 8.7 | 8.3 | 8.1 | 8.5 | 8.5 | 8.5 | 35th |
| 30th | 8.9 | 8.4 | 8.3 | 8.7 | 8.6 | 8.6 | 30th |
| 25th | 9.0 | 8.5 | 8.5 | 8.9 | 8.8 | 8.9 | 25th |
| 20th | 9.1 | 8.8 | 8.8 | 9.0 | 9.0 | 9.0 | 20th |
| 15th | 9.3 | 9.0 | 9.0 | 9.2 | 9.2 | 9.2 | 15th |
| 10th | 9.5 | 9.2 | 9.1 | 9.5 | 9.5 | 9.5 | 10th |
| 5th | 9.9 | 9.6 | 10.0 | 10.0 | 10.2 | 10.4 | 5th |
| 0th | 13.0 | 12.1 | 13.0 | 13.0 | 15.7 | 16.0 | 0th |

TABLE 13

SOFTBALL THROW FOR GIRLS
(Percentile Scores Based on Age)

| Percent- tile | Oklahoma Norms | | | National Norms | | | Percent- tile |
|------------------|----------------|-----|-----|----------------|-----|-----|------------------|
| | Age | | | Age | | | |
| | 12 | 13 | 14 | 12 | 13 | 14 | |
| 100th | 210 | 176 | 170 | 159 | 150 | 156 | 100th |
| 95th | 110 | 117 | 126 | 103 | 111 | 114 | 95th |
| 90th | 97 | 105 | 110 | 96 | 102 | 103 | 90th |
| 85th | 91 | 99 | 105 | 90 | 94 | 100 | 85th |
| 80th | 85 | 95 | 101 | 85 | 90 | 95 | 80th |
| 75th | 81 | 90 | 99 | 80 | 86 | 90 | 75th |
| 70th | 76 | 88 | 94 | 76 | 82 | 87 | 70th |
| 65th | 75 | 85 | 92 | 74 | 79 | 84 | 65th |
| 60th | 72 | 82 | 88 | 70 | 75 | 80 | 60th |
| 55th | 69 | 78 | 84 | 67 | 73 | 78 | 55th |
| 50th | 66 | 75 | 81 | 64 | 70 | 75 | 50th |
| 45th | 64 | 73 | 77 | 61 | 68 | 72 | 45th |
| 40th | 62 | 70 | 72 | 59 | 65 | 70 | 40th |
| 35th | 59 | 67 | 70 | 57 | 63 | 68 | 35th |
| 30th | 57 | 64 | 67 | 54 | 60 | 65 | 30th |
| 25th | 54 | 61 | 62 | 50 | 57 | 61 | 25th |
| 20th | 50 | 58 | 59 | 48 | 53 | 59 | 20th |
| 15th | 47 | 54 | 56 | 45 | 49 | 54 | 15th |
| 10th | 45 | 48 | 52 | 41 | 45 | 50 | 10th |
| 5th | 38 | 41 | 42 | 37 | 36 | 45 | 5th |
| 0th | 15 | 12 | 24 | 20 | 20 | 25 | 0th |

TABLE 14

600 RUN-WALK FOR GIRLS
(Percentile Scores Based on Age)

| Percen- tile | Oklahoma Norms | | | National Norms | | | Percen- tile |
|-----------------|----------------|-------|-------|----------------|-------|-------|-----------------|
| | Age | | | Age | | | |
| | 12 | 13 | 14 | 12 | 13 | 14 | |
| 100th | 1'54" | 1'58" | 1'51" | 1'39" | 1'40" | 1'45" | 100th |
| 95th | 2'12" | 2' 7" | 2' 5" | 2'14" | 2'12" | 2' 9" | 95th |
| 90th | 2'18" | 2'14" | 2'13" | 2'20" | 2'19" | 2'18" | 90th |
| 85th | 2'22" | 2'18" | 2'16" | 2'24" | 2'25" | 2'22" | 85th |
| 80th | 2'25" | 2'23" | 2'20" | 2'27" | 2'29" | 2'25" | 80th |
| 75th | 2'28" | 2'25" | 2'22" | 2'31" | 2'33" | 2'30" | 75th |
| 70th | 2'31" | 2'28" | 2'25" | 2'35" | 2'37" | 2'34" | 70th |
| 65th | 2'34" | 2'32" | 2'27" | 2'39" | 2'40" | 2'37" | 65th |
| 60th | 2'37" | 2'35" | 2'33" | 2'42" | 2'44" | 2'41" | 60th |
| 55th | 2'40" | 2'38" | 2'35" | 2'45" | 2'47" | 2'44" | 55th |
| 50th | 2'44" | 2'40" | 2'38" | 2'49" | 2'52" | 2'46" | 50th |
| 45th | 2'49" | 2'44" | 2'40" | 2'55" | 2'56" | 2'51" | 45th |
| 40th | 2'53" | 2'47" | 2'42" | 2'58" | 3' 0" | 2'55" | 40th |
| 35th | 2'57" | 2'54" | 2'44" | 3' 3" | 3' 3" | 3' 0" | 35th |
| 30th | 3' 0" | 2'59" | 2'50" | 3' 7" | 3' 9" | 3' 6" | 30th |
| 25th | 3' 7" | 3' 2" | 2'58" | 3'11" | 3'15" | 3'12" | 25th |
| 20th | 3'16" | 3' 8" | 3' 4" | 3'18" | 3'20" | 3'19" | 20th |
| 15th | 3'22" | 3'15" | 3'10" | 3'24" | 3'30" | 3'30" | 15th |
| 10th | 3'31" | 3'24" | 3'28" | 3'40" | 3'49" | 3'48" | 10th |
| 5th | 3'52" | 3'43" | 3'47" | 4' 0" | 4'11" | 4' 8" | 5th |
| 0th | 5' 0" | 5'14" | 4'56" | 5'10" | 5'10" | 5'50" | 0th |

TABLE 15

CLASSIFICATION INDEX FOR BOYS AND GIRLS
(Grades 7 and 8)

| Exponent | Age (Months) | Height (Inches) | Weight (Lbs.) | Sum of Exponents | Class |
|----------|-----------------|--------------------|------------------|---------------------|-------|
| 1 | 120-125 | 50-51 | 60-65 | 0-9 | A |
| 2 | 126-131 | 52-53 | 66-70 | 10-14 | B |
| 3 | 132-137 | | 71-75 | 15-19 | C |
| 4 | 138-143 | 54-55 | 76-80 | 20-24 | D |
| 5 | 144-149 | | 81-85 | 25-29 | E |
| 6 | 150-155 | 56-57 | 86-90 | 30-34 | F |
| 7 | 156-161 | | 91-95 | 35-38 | G |
| 8 | 162-167 | 58-59 | 96-100 | 39-above | H |
| 9 | 168-173 | | 101-105 | | |
| 10 | 174-179 | 60-61 | 106-110 | | |
| 11 | 180-185 | | 111-115 | | |
| 12 | 186-191 | 62-63 | 116-120 | | |
| 13 | 192-197 | | 121-125 | | |
| 14 | 198-203 | 64-65 | 126-130 | | |
| 15 | 204-209 | 66-67 | 131-133 | | |
| 16 | 210-215 | 68 | 134-136 | | |
| 17 | 216- | 69 | 137 | | |

TABLE 16

PULL-UPS FOR BOYS
(Percentile Scores Based on Classification Index)

| Percentile | Oklahoma Norms | | | | | | Percentile |
|------------|----------------------|----|----|----|----|----|------------|
| | Classification Index | | | | | | |
| | C | D | E | F | G | H | |
| 100th | 20 | 20 | 31 | 20 | 23 | 24 | 100th |
| 95th | 11 | 11 | 10 | 11 | 12 | 10 | 95th |
| 90th | 10 | 9 | 8 | 10 | 10 | 9 | 90th |
| 85th | 9 | 7 | 7 | 8 | 9 | 8 | 85th |
| 80th | 8 | 7 | 6 | 7 | 8 | 7 | 80th |
| 75th | 7 | 6 | 5 | 6 | 7 | 7 | 75th |
| 70th | 6 | 5 | 5 | 6 | 6 | 6 | 70th |
| 65th | 6 | 4 | 5 | 5 | 5 | 5 | 65th |
| 60th | 5 | 4 | 4 | 5 | 5 | 5 | 60th |
| 55th | 5 | 4 | 4 | 4 | 4 | 4 | 55th |
| 50th | 5 | 3 | 3 | 4 | 3 | 3 | 50th |
| 45th | 4 | 3 | 3 | 3 | 3 | 3 | 45th |
| 40th | 4 | 3 | 2 | 3 | 2 | 2 | 40th |
| 35th | 3 | 2 | 2 | 2 | 1 | 2 | 35th |
| 30th | 3 | 2 | 1 | 2 | 1 | 1 | 30th |
| 25th | 2 | 1 | 1 | 1 | 0 | 1 | 25th |
| 20th | 2 | 1 | 1 | 1 | 0 | 0 | 20th |
| 15th | 1 | 1 | 0 | 1 | 0 | 0 | 15th |
| 10th | 1 | 0 | 0 | 0 | 0 | 0 | 10th |
| 5th | 0 | 0 | 0 | 0 | 0 | 0 | 5th |
| 0th | 0 | 0 | 0 | 0 | 0 | 0 | 0th |

TABLE 17

PULL-UPS FOR BOYS
(Percentile Scores Based on Classification Index)

| Percentile | National Norms | | | | | | Percentile |
|------------|----------------------|----|----|----|----|----|------------|
| | Classification Index | | | | | | |
| | C | D | E | F | G | H | |
| 100th | 16 | 16 | 18 | 20 | 17 | 24 | 100th |
| 95th | 8 | 9 | 9 | 11 | 12 | 12 | 95th |
| 90th | 7 | 7 | 8 | 9 | 10 | 10 | 90th |
| 85th | 6 | 6 | 6 | 8 | 10 | 10 | 85th |
| 80th | 5 | 5 | 5 | 7 | 8 | 9 | 80th |
| 75th | 4 | 5 | 5 | 6 | 7 | 8 | 75th |
| 70th | 4 | 4 | 4 | 6 | 6 | 7 | 70th |
| 65th | 3 | 4 | 3 | 5 | 5 | 7 | 65th |
| 60th | 3 | 3 | 3 | 4 | 5 | 6 | 60th |
| 55th | 3 | 3 | 2 | 4 | 4 | 6 | 55th |
| 50th | 2 | 2 | 2 | 3 | 4 | 5 | 50th |
| 45th | 2 | 2 | 2 | 3 | 3 | 5 | 45th |
| 40th | 1 | 1 | 1 | 2 | 2 | 4 | 40th |
| 35th | 1 | 1 | 1 | 2 | 2 | 3 | 35th |
| 30th | 1 | 1 | 1 | 1 | 1 | 3 | 30th |
| 25th | 0 | 0 | 0 | 1 | 1 | 2 | 25th |
| 20th | 0 | 0 | 0 | 0 | 0 | 1 | 20th |
| 15th | 0 | 0 | 0 | 0 | 0 | 1 | 15th |
| 10th | 0 | 0 | 0 | 0 | 0 | 0 | 10th |
| 5th | 0 | 0 | 0 | 0 | 0 | 0 | 5th |
| 0th | 0 | 0 | 0 | 0 | 0 | 0 | 0th |

TABLE 18

SIT-UPS FOR BOYS
(Percentile Scores Based on Classification Index)

| Percentile | Oklahoma Norms | | | | | | Percentile |
|------------|----------------------|-----|-----|-----|-----|-----|------------|
| | Classification Index | | | | | | |
| | C | D | E | F | G | H | |
| 100th | 100 | 100 | 100 | 100 | 100 | 100 | 100th |
| 95th | 100 | 100 | 100 | 100 | 100 | 100 | 95th |
| 90th | 100 | 100 | 100 | 100 | 100 | 100 | 90th |
| 85th | 100 | 100 | 100 | 100 | 100 | 100 | 85th |
| 80th | 100 | 100 | 100 | 100 | 100 | 100 | 80th |
| 75th | 100 | 100 | 100 | 100 | 100 | 100 | 75th |
| 70th | 100 | 99 | 100 | 100 | 98 | 99 | 70th |
| 65th | 99 | 90 | 99 | 100 | 85 | 83 | 65th |
| 60th | 98 | 80 | 83 | 99 | 80 | 77 | 60th |
| 55th | 80 | 75 | 80 | 86 | 73 | 72 | 55th |
| 50th | 75 | 70 | 74 | 78 | 69 | 60 | 50th |
| 45th | 69 | 65 | 69 | 73 | 62 | 55 | 45th |
| 40th | 60 | 57 | 60 | 65 | 51 | 50 | 40th |
| 35th | 55 | 52 | 54 | 57 | 50 | 50 | 35th |
| 30th | 52 | 50 | 50 | 51 | 50 | 41 | 30th |
| 25th | 50 | 47 | 50 | 50 | 42 | 37 | 25th |
| 20th | 40 | 41 | 42 | 41 | 39 | 32 | 20th |
| 15th | 35 | 35 | 36 | 36 | 32 | 29 | 15th |
| 10th | 30 | 30 | 30 | 30 | 25 | 25 | 10th |
| 5th | 25 | 21 | 22 | 23 | 20 | 16 | 5th |
| 0th | 7 | 11 | 1 | 10 | 1 | 1 | 0th |

TABLE 19

SIT-UPS FOR BOYS
(Percentile Scores Based on Classification Index)

| Perce- tile | National Norms | | | | | | Perce- tile |
|----------------|----------------------|-----|-----|-----|-----|-----|----------------|
| | Classification Index | | | | | | |
| | C | D | E | F | G | H | |
| 100th | 100 | 100 | 100 | 100 | 100 | 100 | 100th |
| 95th | 100 | 100 | 100 | 100 | 100 | 100 | 95th |
| 90th | 100 | 100 | 100 | 100 | 100 | 100 | 90th |
| 85th | 100 | 100 | 100 | 100 | 100 | 100 | 85th |
| 80th | 90 | 100 | 100 | 100 | 100 | 100 | 80th |
| 75th | 75 | 99 | 99 | 100 | 100 | 100 | 75th |
| 70th | 61 | 78 | 81 | 99 | 99 | 100 | 70th |
| 65th | 55 | 70 | 73 | 85 | 95 | 99 | 65th |
| 60th | 50 | 60 | 64 | 70 | 76 | 90 | 60th |
| 55th | 50 | 52 | 57 | 60 | 70 | 78 | 55th |
| 50th | 47 | 50 | 50 | 55 | 65 | 70 | 50th |
| 45th | 40 | 50 | 50 | 50 | 56 | 64 | 45th |
| 40th | 36 | 41 | 49 | 49 | 51 | 60 | 40th |
| 35th | 32 | 40 | 41 | 42 | 50 | 52 | 35th |
| 30th | 30 | 35 | 39 | 39 | 47 | 50 | 30th |
| 25th | 28 | 30 | 35 | 35 | 40 | 43 | 25th |
| 20th | 25 | 28 | 30 | 30 | 35 | 39 | 20th |
| 15th | 22 | 23 | 25 | 26 | 30 | 34 | 15th |
| 10th | 17 | 20 | 22 | 22 | 25 | 30 | 10th |
| 5th | 12 | 14 | 16 | 17 | 14 | 23 | 5th |
| 0th | 0 | 0 | 0 | 0 | 0 | 5 | 0th |

TABLE 20

SHUTTLE RUN FOR BOYS
(Percentile Scores Based on Classification Index)

| Percentile | Oklahoma Norms | | | | | | Percentile |
|------------|----------------------|------|------|------|------|------|------------|
| | Classification Index | | | | | | |
| | C | D | E | F | G | H | |
| 100th | 7.7 | 9.1 | 7.5 | 8.7 | 7.5 | 8.8 | 100th |
| 95th | 9.6 | 9.5 | 9.5 | 9.3 | 9.4 | 9.5 | 95th |
| 90th | 9.9 | 9.9 | 9.8 | 9.5 | 9.6 | 9.6 | 90th |
| 85th | 10.0 | 10.0 | 10.0 | 9.8 | 9.8 | 9.8 | 85th |
| 80th | 10.1 | 10.1 | 10.0 | 10.0 | 9.9 | 9.9 | 80th |
| 75th | 10.3 | 10.2 | 10.1 | 10.0 | 10.1 | 10.0 | 75th |
| 70th | 10.5 | 10.4 | 10.2 | 10.1 | 10.2 | 10.1 | 70th |
| 65th | 10.6 | 10.5 | 10.4 | 10.3 | 10.4 | 10.2 | 65th |
| 60th | 10.8 | 10.6 | 10.5 | 10.4 | 10.5 | 10.4 | 60th |
| 55th | 10.9 | 10.7 | 10.6 | 10.5 | 10.6 | 10.5 | 55th |
| 50th | 11.0 | 10.9 | 10.8 | 10.7 | 10.9 | 10.7 | 50th |
| 45th | 11.0 | 11.0 | 10.9 | 10.8 | 11.0 | 10.9 | 45th |
| 40th | 11.2 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 40th |
| 35th | 11.3 | 11.2 | 11.1 | 11.1 | 11.2 | 11.2 | 35th |
| 30th | 11.5 | 11.4 | 11.3 | 11.3 | 11.4 | 11.4 | 30th |
| 25th | 11.7 | 11.5 | 11.5 | 11.5 | 11.6 | 11.6 | 25th |
| 20th | 12.0 | 11.8 | 11.6 | 12.0 | 11.9 | 12.0 | 20th |
| 15th | 12.0 | 12.1 | 12.0 | 12.4 | 12.0 | 12.1 | 15th |
| 10th | 12.3 | 12.7 | 12.4 | 12.9 | 12.3 | 12.5 | 10th |
| 5th | 13.0 | 13.2 | 13.2 | 14.0 | 13.0 | 13.7 | 5th |
| 0th | 17.7 | 22.0 | 23.0 | 20.0 | 17.4 | 22.0 | 0th |

TABLE 21

SHUTTLE RUN FOR BOYS
(Percentile Scores Based on Classification Index)

| Percentile | National Norms | | | | | | Percentile |
|------------|----------------------|------|------|------|------|------|------------|
| | Classification Index | | | | | | |
| | C | D | E | F | G | H | |
| 100th | 8.0 | 9.0 | 8.5 | 8.5 | 9.0 | 8.3 | 100th |
| 95th | 9.9 | 9.8 | 9.8 | 9.4 | 9.5 | 9.1 | 95th |
| 90th | 10.0 | 10.0 | 10.0 | 9.6 | 9.6 | 9.4 | 90th |
| 85th | 10.1 | 10.0 | 10.0 | 9.8 | 9.8 | 9.5 | 85th |
| 80th | 10.4 | 10.2 | 10.1 | 10.0 | 9.9 | 9.6 | 80th |
| 75th | 10.5 | 10.3 | 10.2 | 10.0 | 10.0 | 9.7 | 75th |
| 70th | 10.6 | 10.5 | 10.4 | 10.1 | 10.1 | 9.8 | 70th |
| 65th | 10.7 | 10.6 | 10.5 | 10.3 | 10.2 | 9.9 | 65th |
| 60th | 10.9 | 10.8 | 10.6 | 10.4 | 10.3 | 10.0 | 60th |
| 55th | 11.0 | 10.9 | 10.8 | 10.5 | 10.4 | 10.1 | 55th |
| 50th | 11.0 | 11.0 | 10.9 | 10.5 | 10.5 | 10.2 | 50th |
| 45th | 11.2 | 11.0 | 11.0 | 10.7 | 10.6 | 10.3 | 45th |
| 40th | 11.3 | 11.1 | 11.0 | 10.8 | 10.8 | 10.4 | 40th |
| 35th | 11.5 | 11.3 | 11.2 | 11.0 | 10.9 | 10.5 | 35th |
| 30th | 11.6 | 11.4 | 11.4 | 11.1 | 11.0 | 10.6 | 30th |
| 25th | 11.8 | 11.5 | 11.5 | 11.2 | 11.3 | 10.8 | 25th |
| 20th | 12.0 | 11.7 | 11.7 | 11.5 | 11.6 | 11.0 | 20th |
| 15th | 12.0 | 12.0 | 12.0 | 11.8 | 11.8 | 11.3 | 15th |
| 10th | 12.2 | 12.3 | 12.2 | 12.0 | 12.0 | 11.7 | 10th |
| 5th | 13.0 | 12.8 | 12.6 | 12.6 | 12.8 | 12.1 | 5th |
| 0th | 15.7 | 18.0 | 14.3 | 14.5 | 22.0 | 16.0 | 0th |

TABLE 22

STANDING BROAD JUMP FOR BOYS
(Percentile Scores Based on Classification Index)

| Percentile | Oklahoma Norms | | | | | | Percentile |
|------------|----------------------|--------|--------|--------|--------|--------|------------|
| | Classification Index | | | | | | |
| | C | D | E | F | G | H | |
| 100th | 7' 4" | 7' 6" | 7' 8" | 8' 5" | 8' 5" | 8' 5" | 100th |
| 95th | 6' 7" | 6' 9" | 6' 10" | 7' 4" | 7' 1" | 7' 10" | 95th |
| 90th | 6' 5" | 6' 6" | 6' 8" | 7' 1" | 6' 12" | 7' 6" | 90th |
| 85th | 6' 2" | 6' 4" | 6' 6" | 6' 10" | 6' 10" | 7' 2" | 85th |
| 80th | 6' 2" | 6' 2" | 6' 5" | 6' 8" | 6' 8" | 7' 0" | 80th |
| 75th | 6' 1" | 6' 1" | 6' 3" | 6' 6" | 6' 7" | 6' 10" | 75th |
| 70th | 6' 0" | 6' 0" | 6' 2" | 6' 4" | 6' 5" | 6' 8" | 70th |
| 65th | 5' 11" | 5' 10" | 6' 0" | 6' 3" | 6' 3" | 6' 6" | 65th |
| 60th | 5' 10" | 5' 9" | 6' 0" | 6' 1" | 6' 2" | 6' 5" | 60th |
| 55th | 5' 9" | 5' 8" | 5' 11" | 6' 0" | 6' 1" | 6' 3" | 55th |
| 50th | 5' 7" | 5' 7" | 5' 9" | 5' 11" | 6' 0" | 6' 3" | 50th |
| 45th | 5' 6" | 5' 6" | 5' 7" | 5' 10" | 5' 10" | 6' 1" | 45th |
| 40th | 5' 5" | 5' 5" | 5' 6" | 5' 9" | 5' 8" | 5' 11" | 40th |
| 35th | 5' 4" | 5' 4" | 5' 5" | 5' 8" | 5' 7" | 5' 10" | 35th |
| 30th | 5' 2" | 5' 3" | 5' 4" | 5' 6" | 5' 6" | 5' 9" | 30th |
| 25th | 5' 1" | 5' 2" | 5' 2" | 5' 5" | 5' 5" | 5' 6" | 25th |
| 20th | 5' 0" | 5' 0" | 5' 1" | 5' 2" | 5' 3" | 5' 4" | 20th |
| 15th | 4' 10" | 4' 10" | 4' 11" | 5' 0" | 5' 0" | 5' 1" | 15th |
| 10th | 4' 8" | 4' 7" | 4' 9" | 4' 9" | 4' 10" | 4' 11" | 10th |
| 5th | 4' 6" | 4' 4" | 4' 6" | 4' 6" | 4' 2" | 4' 6" | 5th |
| 0th | 3' 10" | 3' 0" | 3' 2" | 3' 0" | 3' 3" | 3' 0" | 0th |

TABLE 23

STANDING BROAD JUMP FOR BOYS
(Percentile Scores Based on Classification Index)

| Percentile | National Norms | | | | | | Percentile |
|------------|----------------------|--------|--------|--------|--------|--------|------------|
| | Classification Index | | | | | | |
| | C | D | E | F | G | H | |
| 100th | 7' 2" | 10' 0" | 7' 9" | 8' 10" | 8' 8" | 8' 9" | 100th |
| 95th | 6' 4" | 6' 7" | 6' 9" | 7' 2" | 7' 6" | 7' 11" | 95th |
| 90th | 6' 2" | 6' 3" | 6' 6" | 6' 11" | 7' 2" | 7' 7" | 90th |
| 85th | 6' 0" | 6' 2" | 6' 4" | 6' 9" | 7' 0" | 7' 6" | 85th |
| 80th | 5' 9" | 6' 0" | 6' 2" | 6' 8" | 6' 11" | 7' 4" | 80th |
| 75th | 5' 9" | 5' 11" | 6' 0" | 6' 6" | 6' 9" | 7' 3" | 75th |
| 70th | 5' 7" | 5' 10" | 6' 0" | 6' 4" | 6' 8" | 7' 1" | 70th |
| 65th | 5' 6" | 5' 9" | 5' 10" | 6' 3" | 6' 5" | 6' 11" | 65th |
| 60th | 5' 5" | 5' 8" | 5' 9" | 6' 1" | 6' 4" | 6' 10" | 60th |
| 55th | 5' 4" | 5' 6" | 5' 8" | 6' 0" | 6' 2" | 6' 8" | 55th |
| 50th | 5' 3" | 5' 6" | 5' 6" | 5' 11" | 6' 1" | 6' 7" | 50th |
| 45th | 5' 2" | 5' 5" | 5' 6" | 5' 10" | 5' 11" | 6' 6" | 45th |
| 40th | 5' 1" | 5' 4" | 5' 4" | 5' 8" | 5' 10" | 6' 5" | 40th |
| 35th | 5' 0" | 5' 2" | 5' 3" | 5' 6" | 5' 9" | 6' 3" | 35th |
| 30th | 4' 11" | 5' 1" | 5' 1" | 5' 5" | 5' 7" | 6' 1" | 30th |
| 25th | 4' 10" | 5' 0" | 5' 0" | 5' 3" | 5' 5" | 5' 11" | 25th |
| 20th | 4' 9" | 4' 10" | 4' 10" | 5' 1" | 5' 2" | 5' 9" | 20th |
| 15th | 4' 6" | 4' 8" | 4' 8" | 4' 11" | 4' 11" | 5' 5" | 15th |
| 10th | 4' 4" | 4' 5" | 4' 6" | 4' 7" | 4' 6" | 5' 2" | 10th |
| 5th | 4' 1" | 4' 2" | 4' 3" | 4' 3" | 4' 2" | 4' 10" | 5th |
| 0th | 2' 2" | 2' 10" | 2' 10" | 1' 8" | 2' 2" | 3' 2" | 0th |

TABLE 24
50-YARD DASH FOR BOYS
(Percentile Scores Based on Classification Index)

| Percen- tile | Oklahoma Norms | | | | | | Percen- tile |
|-----------------|----------------------|------|------|------|------|------|-----------------|
| | Classification Index | | | | | | |
| | C | D | E | F | G | H | |
| 100th | 5.9 | 6.1 | 5.6 | 5.5 | 5.5 | 5.6 | 100th |
| 95th | 6.8 | 6.9 | 6.9 | 6.4 | 6.4 | 6.2 | 95th |
| 90th | 6.9 | 7.0 | 7.0 | 6.7 | 6.6 | 6.4 | 90th |
| 85th | 7.0 | 7.2 | 7.1 | 6.9 | 6.8 | 6.5 | 85th |
| 80th | 7.2 | 7.2 | 7.2 | 7.0 | 6.9 | 6.6 | 80th |
| 75th | 7.3 | 7.3 | 7.2 | 7.0 | 7.0 | 6.8 | 75th |
| 70th | 7.4 | 7.4 | 7.3 | 7.1 | 7.0 | 6.8 | 70th |
| 65th | 7.5 | 7.5 | 7.4 | 7.2 | 7.1 | 6.9 | 65th |
| 60th | 7.6 | 7.6 | 7.5 | 7.2 | 7.2 | 7.0 | 60th |
| 55th | 7.7 | 7.7 | 7.5 | 7.3 | 7.4 | 7.2 | 55th |
| 50th | 7.8 | 7.8 | 7.6 | 7.4 | 7.4 | 7.2 | 50th |
| 45th | 7.8 | 7.9 | 7.8 | 7.5 | 7.6 | 7.4 | 45th |
| 40th | 7.9 | 7.9 | 7.8 | 7.6 | 7.7 | 7.5 | 40th |
| 35th | 8.0 | 8.0 | 7.9 | 7.7 | 7.9 | 7.6 | 35th |
| 30th | 8.1 | 8.1 | 8.0 | 7.9 | 8.1 | 7.8 | 30th |
| 25th | 8.2 | 8.2 | 8.1 | 8.0 | 8.3 | 7.9 | 25th |
| 20th | 8.4 | 8.4 | 8.2 | 8.1 | 8.5 | 8.0 | 20th |
| 15th | 8.7 | 8.5 | 8.4 | 8.5 | 8.5 | 8.3 | 15th |
| 10th | 8.9 | 8.9 | 8.7 | 9.0 | 8.9 | 8.5 | 10th |
| 5th | 9.1 | 9.5 | 9.0 | 9.6 | 9.3 | 8.9 | 5th |
| 0th | 11.0 | 12.0 | 11.8 | 12.0 | 12.0 | 15.4 | 0th |

TABLE 25

50-YARD DASH FOR BOYS
(Percentile Scores Based on Classification Index)

| Percentile | National Norms | | | | | | Percentile |
|------------|----------------------|------|------|------|------|-----|------------|
| | Classification Index | | | | | | |
| | C | D | E | F | G | H | |
| 100th | 6.0 | 6.0 | 5.8 | 5.9 | 5.8 | 5.8 | 100th |
| 95th | 7.0 | 6.8 | 6.7 | 6.5 | 6.4 | 6.1 | 95th |
| 90th | 7.1 | 7.0 | 6.9 | 6.7 | 6.6 | 6.3 | 90th |
| 85th | 7.2 | 7.0 | 7.0 | 6.9 | 6.7 | 6.4 | 85th |
| 80th | 7.4 | 7.2 | 7.1 | 7.0 | 6.8 | 6.5 | 80th |
| 75th | 7.5 | 7.3 | 7.2 | 7.0 | 6.9 | 6.6 | 75th |
| 70th | 7.5 | 7.4 | 7.3 | 7.1 | 7.0 | 6.6 | 70th |
| 65th | 7.7 | 7.5 | 7.4 | 7.2 | 7.0 | 6.7 | 65th |
| 60th | 7.8 | 7.6 | 7.5 | 7.3 | 7.1 | 6.8 | 60th |
| 55th | 7.9 | 7.7 | 7.5 | 7.4 | 7.2 | 6.9 | 55th |
| 50th | 7.9 | 7.8 | 7.7 | 7.5 | 7.2 | 7.0 | 50th |
| 45th | 8.0 | 7.9 | 7.8 | 7.5 | 7.4 | 7.0 | 45th |
| 40th | 8.0 | 8.0 | 7.9 | 7.6 | 7.5 | 7.0 | 40th |
| 35th | 8.2 | 8.0 | 8.0 | 7.8 | 7.6 | 7.1 | 35th |
| 30th | 8.4 | 8.2 | 8.1 | 8.0 | 7.7 | 7.2 | 30th |
| 25th | 8.5 | 8.3 | 8.2 | 8.1 | 7.9 | 7.4 | 25th |
| 20th | 8.7 | 8.4 | 8.4 | 8.2 | 8.0 | 7.5 | 20th |
| 15th | 8.9 | 8.6 | 8.5 | 8.3 | 8.3 | 7.8 | 15th |
| 10th | 9.1 | 9.0 | 9.0 | 8.6 | 8.6 | 8.0 | 10th |
| 5th | 9.5 | 9.4 | 9.2 | 9.0 | 9.2 | 8.5 | 5th |
| 0th | 10.8 | 10.9 | 12.0 | 11.6 | 12.0 | 9.6 | 0th |

TABLE 26
SOFTBALL THROW FOR BOYS
(Percentile Scores Based on Classification Index)

| Percen- tile | Oklahoma Norms | | | | | | Percen- tile |
|-----------------|----------------------|-----|-----|-----|-----|-----|-----------------|
| | Classification Index | | | | | | |
| | C | D | E | F | G | H | |
| 100th | 168 | 196 | 250 | 227 | 240 | 290 | 100th |
| 95th | 156 | 159 | 174 | 180 | 192 | 202 | 95th |
| 90th | 147 | 150 | 162 | 168 | 183 | 195 | 90th |
| 85th | 135 | 139 | 155 | 162 | 169 | 189 | 85th |
| 80th | 131 | 136 | 147 | 156 | 165 | 183 | 80th |
| 75th | 126 | 134 | 144 | 153 | 162 | 178 | 75th |
| 70th | 123 | 132 | 138 | 150 | 155 | 174 | 70th |
| 65th | 120 | 128 | 135 | 147 | 152 | 170 | 65th |
| 60th | 120 | 125 | 132 | 141 | 148 | 165 | 60th |
| 55th | 120 | 122 | 129 | 138 | 143 | 162 | 55th |
| 50th | 116 | 118 | 126 | 135 | 140 | 154 | 50th |
| 45th | 113 | 115 | 124 | 131 | 137 | 150 | 45th |
| 40th | 111 | 113 | 120 | 125 | 135 | 144 | 40th |
| 35th | 106 | 108 | 118 | 121 | 130 | 141 | 35th |
| 30th | 102 | 105 | 115 | 119 | 127 | 137 | 30th |
| 25th | 100 | 100 | 112 | 117 | 122 | 133 | 25th |
| 20th | 97 | 96 | 106 | 111 | 118 | 130 | 20th |
| 15th | 96 | 90 | 99 | 104 | 108 | 124 | 15th |
| 10th | 92 | 87 | 92 | 92 | 96 | 109 | 10th |
| 5th | 80 | 73 | 70 | 72 | 75 | 70 | 5th |
| 0th | 20 | 20 | 22 | 40 | 39 | 39 | 0th |

TABLE 27

SOFTBALL THROW FOR BOYS
(Percentile Scores Based on Classification Index)

| Perce- tile | National Norms | | | | | | Perce- tile |
|----------------|----------------------|-----|-----|-----|-----|-----|----------------|
| | Classification Index | | | | | | |
| | C | D | E | F | G | H | |
| 100th | 245 | 195 | 239 | 228 | 228 | 242 | 100th |
| 95th | 151 | 160 | 169 | 188 | 198 | 219 | 95th |
| 90th | 142 | 150 | 159 | 180 | 190 | 209 | 90th |
| 85th | 136 | 144 | 152 | 172 | 181 | 200 | 85th |
| 80th | 131 | 140 | 148 | 167 | 175 | 195 | 80th |
| 75th | 128 | 135 | 145 | 162 | 170 | 190 | 75th |
| 70th | 124 | 132 | 141 | 158 | 166 | 188 | 70th |
| 65th | 121 | 128 | 138 | 153 | 165 | 183 | 65th |
| 60th | 119 | 125 | 135 | 150 | 161 | 179 | 60th |
| 55th | 115 | 121 | 131 | 145 | 158 | 176 | 55th |
| 50th | 112 | 120 | 127 | 141 | 153 | 171 | 50th |
| 45th | 110 | 116 | 125 | 138 | 150 | 166 | 45th |
| 40th | 108 | 114 | 121 | 135 | 146 | 162 | 40th |
| 35th | 104 | 110 | 118 | 132 | 141 | 159 | 35th |
| 30th | 100 | 107 | 115 | 125 | 139 | 154 | 30th |
| 25th | 97 | 104 | 113 | 121 | 131 | 149 | 25th |
| 20th | 93 | 100 | 108 | 118 | 128 | 142 | 20th |
| 15th | 89 | 93 | 104 | 110 | 124 | 138 | 15th |
| 10th | 84 | 87 | 95 | 102 | 115 | 127 | 10th |
| 5th | 75 | 78 | 86 | 89 | 102 | 110 | 5th |
| -th | 30 | 31 | 55 | 25 | 25 | 44 | 0th |

TABLE 28

600-YARD RUN-WALK FOR BOYS
(Percentile Scores Based on Classification Index)

| Percentile | Oklahoma Norms | | | | | | Percentile |
|------------|----------------------|-------|-------|-------|-------|-------|------------|
| | Classification Index | | | | | | |
| | C | D | E | F | G | H | |
| 100th | 1'36" | 1'28" | 1'27" | 1'22" | 1'15" | 1'32" | 100th |
| 95th | 1'51" | 1'49" | 1'46" | 1'44" | 1'46" | 1'40" | 95th |
| 90th | 1'58" | 1'54" | 1'52" | 1'48" | 1'49" | 1'45" | 90th |
| 85th | 2' 0" | 1'59" | 1'57" | 1'52" | 1'52" | 1'48" | 85th |
| 80th | 2' 2" | 2' 2" | 1'59" | 1'55" | 1'55" | 1'51" | 80th |
| 75th | 2' 5" | 2' 4" | 2' 1" | 1'59" | 1'57" | 1'56" | 75th |
| 70th | 2' 7" | 2' 5" | 2' 3" | 2' 1" | 2' 0" | 1'59" | 70th |
| 65th | 2' 9" | 2' 8" | 2' 5" | 2' 3" | 2' 2" | 2' 1" | 65th |
| 60th | 2'11" | 2'10" | 2' 8" | 2' 6" | 2' 5" | 2' 4" | 60th |
| 55th | 2'13" | 2'12" | 2'10" | 2' 8" | 2' 7" | 2' 6" | 55th |
| 50th | 2'14" | 2'14" | 2'12" | 2'10" | 2'10" | 2' 9" | 50th |
| 45th | 2'15" | 2'16" | 2'14" | 2'13" | 2'13" | 2'11" | 45th |
| 40th | 2'16" | 2'18" | 2'16" | 2'15" | 2'18" | 2'14" | 40th |
| 35th | 2'18" | 2'20" | 2'19" | 2'17" | 2'20" | 2'16" | 35th |
| 30th | 2'20" | 2'23" | 2'22" | 2'19" | 2'15" | 2'19" | 30th |
| 25th | 2'23" | 2'26" | 2'25" | 2'24" | 2'29" | 2'25" | 25th |
| 20th | 2'26" | 2'30" | 2'29" | 2'29" | 2'35" | 2'32" | 20th |
| 15th | 2'30" | 2'37" | 2'32" | 2'37" | 2'43" | 2'39" | 15th |
| 10th | 2'39" | 2'45" | 2'43" | 2'49" | 2'51" | 2'50" | 10th |
| 5th | 2'46" | 3' 0" | 2'59" | 3' 0" | 3'12" | 3'12" | 5th |
| 0th | 3'56" | 3'57" | 4'18" | 7'20" | 4' 5" | 6'13" | 0th |

TABLE 29

600-YARD RUN-WALK FOR BOYS
(Percentile Scores Based on Classification Index)

| Percent- tile | National Norms | | | | | | Percent- tile |
|------------------|----------------------|-------|-------|-------|-------|-------|------------------|
| | Classification Index | | | | | | |
| | C | D | E | F | G | H | |
| 100th | 1'32" | 1'29" | 1'34" | 1'35" | 1'30" | 1'25" | 100th |
| 95th | 1'56" | 1'52" | 1'51" | 1'48" | 1'44" | 1'38" | 95th |
| 90th | 2' 2" | 1'59" | 1'57" | 1'51" | 1'46" | 1'42" | 90th |
| 85th | 2' 6" | 2' 3" | 2' 0" | 1'54" | 1'50" | 1'44" | 85th |
| 80th | 2' 9" | 2' 6" | 2' 2" | 1'57" | 1'52" | 1'46" | 80th |
| 75th | 2'11" | 2'10" | 2' 5" | 1'59" | 1'54" | 1'48" | 75th |
| 70th | 2'13" | 2'12" | 2' 8" | 2' 2" | 1'56" | 1'51" | 70th |
| 65th | 2'16" | 2'14" | 2'11" | 2' 4" | 1'59" | 1'52" | 65th |
| 60th | 2'19" | 2'16" | 2'15" | 2' 5" | 2' 0" | 1'55" | 60th |
| 55th | 2'21" | 2'18" | 2'16" | 2' 8" | 2' 3" | 1'56" | 55th |
| 50th | 2'24" | 2'22" | 2'19" | 2'10" | 2' 5" | 1'59" | 50th |
| 45th | 2'28" | 2'24" | 2'22" | 2'12" | 2' 9" | 2' 1" | 45th |
| 40th | 2'31" | 2'27" | 2'26" | 2'15" | 2'11" | 2' 4" | 40th |
| 35th | 2'34" | 2'30" | 2'29" | 2'19" | 2'14" | 2' 8" | 35th |
| 30th | 2'38" | 2'35" | 2'32" | 2'23" | 2'18" | 2'12" | 30th |
| 25th | 2'41" | 2'40" | 2'36" | 2'27" | 2'24" | 2'16" | 25th |
| 20th | 2'45" | 2'46" | 2'43" | 2'32" | 2'30" | 2'23" | 20th |
| 15th | 2'50" | 2;55" | 2'53" | 2'40" | 2'38" | 2'29" | 15th |
| 10th | 3' 2" | 3' 7" | 3' 3" | 2'55" | 2'56" | 2'41" | 10th |
| 5th | 3'14" | 3'30" | 3'21" | 3'21" | 3'15" | 3'11" | 5th |
| 0th | 4'34" | 5' 6" | 5' 8" | 5' 0" | 4'25" | 5'14" | 0th |

TABLE 30

FLEXED ARM HANG FOR GIRLS
(Percentile Scores Based on Classification Index)

| Percen- tile | Oklahoma Norms | | | | | | Percen- tile |
|-----------------|----------------------|----|----|----|----|----|-----------------|
| | Classification Index | | | | | | |
| | C | D | E | F | G | H | |
| 100th | 39 | 46 | 90 | 50 | 27 | 20 | 100th |
| 95th | 32 | 29 | 22 | 20 | 20 | 20 | 95th |
| 90th | 27 | 25 | 20 | 20 | 20 | 20 | 90th |
| 85th | 21 | 20 | 20 | 20 | 19 | 18 | 85th |
| 80th | 20 | 20 | 20 | 19 | 15 | 13 | 80th |
| 75th | 20 | 20 | 19 | 18 | 12 | 11 | 75th |
| 70th | 20 | 20 | 17 | 16 | 10 | 8 | 70th |
| 65th | 20 | 18 | 15 | 14 | 9 | 7 | 65th |
| 60th | 20 | 16 | 13 | 12 | 9 | 5 | 60th |
| 55th | 18 | 14 | 12 | 10 | 7 | 4 | 55th |
| 50th | 16 | 13 | 11 | 9 | 5 | 3 | 50th |
| 45th | 12 | 12 | 9 | 8 | 4 | 3 | 45th |
| 40th | 10 | 10 | 8 | 7 | 3 | 2 | 40th |
| 35th | 10 | 10 | 7 | 6 | 3 | 2 | 35th |
| 30th | 8 | 8 | 6 | 5 | 2 | 2 | 30th |
| 25th | 7 | 7 | 5 | 4 | 1 | 1 | 25th |
| 20th | 6 | 6 | 4 | 3 | 1 | 1 | 20th |
| 15th | 5 | 4 | 3 | 2 | 1 | 0 | 15th |
| 10th | 4 | 2 | 2 | 1 | 0 | 0 | 10th |
| 5th | 2 | 1 | 0 | 0 | 0 | 0 | 5th |
| 0th | 0 | 0 | 0 | 0 | 0 | 0 | 0th |

TABLE 31

FLEXED ARM HANG FOR GIRLS
(Percentile Scores Based on Classification Index)

| Percentile | National Norms | | | | | | Percentile |
|------------|----------------------|----|----|----|----|----|------------|
| | Classification Index | | | | | | |
| | C | D | E | F | G | H | |
| 100th | 80 | 64 | 61 | 61 | 64 | 40 | 100th |
| 95th | 35 | 28 | 31 | 30 | 17 | 17 | 95th |
| 90th | 27 | 22 | 23 | 21 | 13 | 14 | 90th |
| 85th | 23 | 18 | 20 | 18 | 11 | 11 | 85th |
| 80th | 20 | 15 | 17 | 14 | 11 | 9 | 80th |
| 75th | 18 | 13 | 14 | 13 | 9 | 7 | 75th |
| 70th | 16 | 11 | 12 | 11 | 8 | 6 | 70th |
| 65th | 14 | 10 | 11 | 10 | 7 | 5 | 65th |
| 60th | 12 | 9 | 9 | 9 | 6 | 4 | 60th |
| 55th | 10 | 8 | 8 | 8 | 5 | 2 | 55th |
| 50th | 9 | 7 | 7 | 7 | 4 | 2 | 50th |
| 45th | 8 | 6 | 6 | 6 | 3 | 2 | 45th |
| 40th | 7 | 6 | 5 | 5 | 2 | 1 | 40th |
| 35th | 6 | 5 | 4 | 4 | 2 | 1 | 35th |
| 30th | 5 | 4 | 3 | 3 | 1 | 1 | 30th |
| 25th | 4 | 3 | 3 | 2 | 0 | 0 | 25th |
| 20th | 3 | 2 | 2 | 1 | 0 | 0 | 20th |
| 15th | 2 | 1 | 1 | 0 | 0 | 0 | 15th |
| 10th | 1 | 0 | 0 | 0 | 0 | 0 | 10th |
| 5th | 0 | 0 | 0 | 0 | 0 | 0 | 5th |
| 0th | 0 | 0 | 0 | 0 | 0 | 0 | 0th |

TABLE 32

SIT-UPS FOR GIRLS
(Percentile Scores Based on Classification Index)

| Percentile | Oklahoma Norms | | | | | | Percentile |
|------------|----------------------|----|----|----|----|----|------------|
| | Classification Index | | | | | | |
| | C | D | E | F | G | H | |
| 100th | 50 | 50 | 50 | 50 | 50 | 50 | 100th |
| 95th | 50 | 50 | 50 | 50 | 50 | 50 | 95th |
| 90th | 50 | 50 | 50 | 50 | 50 | 50 | 90th |
| 85th | 50 | 50 | 50 | 50 | 50 | 50 | 85th |
| 80th | 50 | 50 | 50 | 50 | 50 | 50 | 80th |
| 75th | 50 | 50 | 50 | 50 | 50 | 50 | 75th |
| 70th | 50 | 50 | 50 | 50 | 50 | 47 | 70th |
| 65th | 50 | 50 | 50 | 50 | 50 | 32 | 65th |
| 60th | 50 | 50 | 50 | 50 | 50 | 32 | 60th |
| 55th | 50 | 50 | 50 | 43 | 50 | 30 | 55th |
| 50th | 50 | 47 | 46 | 38 | 46 | 26 | 50th |
| 45th | 49 | 42 | 40 | 33 | 35 | 24 | 45th |
| 40th | 46 | 36 | 35 | 30 | 31 | 22 | 40th |
| 35th | 40 | 32 | 30 | 28 | 27 | 20 | 35th |
| 30th | 34 | 30 | 28 | 24 | 25 | 20 | 30th |
| 25th | 30 | 29 | 25 | 20 | 22 | 17 | 25th |
| 20th | 25 | 26 | 22 | 19 | 20 | 15 | 20th |
| 15th | 22 | 22 | 19 | 17 | 17 | 12 | 15th |
| 10th | 19 | 20 | 16 | 14 | 15 | 11 | 10th |
| 5th | 17 | 15 | 10 | 10 | 15 | 9 | 5th |
| 0th | 10 | 2 | 1 | 1 | 6 | 2 | 0th |

TABLE 33

SIT-UPS FOR GIRLS
(Percentile Scores Based on Classification Index)

| Percentile | National Norms | | | | | | Percentile |
|------------|----------------------|----|----|----|----|----|------------|
| | Classification Index | | | | | | |
| | C | D | E | F | G | H | |
| 100th | 50 | 50 | 50 | 50 | 50 | 50 | 100th |
| 95th | 50 | 50 | 50 | 50 | 50 | 50 | 95th |
| 90th | 50 | 50 | 50 | 50 | 50 | 50 | 90th |
| 85th | 50 | 50 | 50 | 50 | 49 | 48 | 85th |
| 80th | 50 | 50 | 50 | 50 | 43 | 43 | 80th |
| 75th | 50 | 50 | 50 | 49 | 38 | 39 | 75th |
| 70th | 50 | 47 | 47 | 44 | 35 | 35 | 70th |
| 65th | 50 | 40 | 40 | 40 | 32 | 34 | 65th |
| 60th | 45 | 37 | 37 | 36 | 30 | 30 | 60th |
| 55th | 40 | 33 | 34 | 34 | 29 | 29 | 55th |
| 50th | 35 | 31 | 31 | 31 | 25 | 27 | 50th |
| 45th | 31 | 30 | 29 | 30 | 25 | 25 | 45th |
| 40th | 30 | 27 | 26 | 27 | 22 | 23 | 40th |
| 35th | 25 | 25 | 24 | 25 | 20 | 21 | 35th |
| 30th | 23 | 22 | 21 | 23 | 20 | 20 | 30th |
| 25th | 20 | 20 | 20 | 21 | 17 | 18 | 25th |
| 20th | 18 | 18 | 19 | 20 | 15 | 15 | 20th |
| 15th | 16 | 16 | 15 | 16 | 13 | 14 | 15th |
| 10th | 11 | 13 | 13 | 13 | 10 | 12 | 10th |
| 5th | 8 | 10 | 9 | 10 | 8 | 9 | 5th |
| 0th | 0 | 0 | 0 | 0 | 1 | 3 | 0th |

TABLE 34

SHUTTLE RUN FOR GIRLS
(Percentile Scores Based on Classification Index)

| Percen- tile | Oklahoma Norms | | | | | | Percen- tile |
|-----------------|----------------------|------|------|------|------|------|-----------------|
| | Classification Index | | | | | | |
| | C | D | E | F | G | H | |
| 100th | 9.6 | 8.6 | 8.7 | 8.8 | 9.8 | 8.2 | 100th |
| 95th | 10.0 | 10.0 | 9.9 | 10.0 | 10.0 | 10.1 | 95th |
| 90th | 10.2 | 10.1 | 10.2 | 10.1 | 10.2 | 10.3 | 90th |
| 85th | 10.4 | 10.3 | 10.4 | 10.3 | 10.4 | 10.6 | 85th |
| 80th | 10.6 | 10.4 | 10.5 | 10.4 | 10.5 | 11.0 | 80th |
| 75th | 10.8 | 10.5 | 10.6 | 10.5 | 10.6 | 11.0 | 75th |
| 70th | 10.9 | 10.7 | 10.8 | 10.7 | 10.7 | 11.1 | 70th |
| 65th | 11.0 | 10.9 | 10.9 | 10.8 | 10.9 | 11.2 | 65th |
| 60th | 11.1 | 11.0 | 11.0 | 11.0 | 11.0 | 11.4 | 60th |
| 55th | 11.2 | 11.0 | 11.1 | 11.1 | 11.2 | 11.4 | 55th |
| 50th | 11.4 | 11.1 | 11.2 | 11.2 | 11.3 | 11.5 | 50th |
| 45th | 11.5 | 11.2 | 11.4 | 11.4 | 11.4 | 11.9 | 45th |
| 40th | 11.6 | 11.4 | 11.5 | 11.5 | 11.5 | 12.0 | 40th |
| 35th | 11.8 | 11.7 | 11.6 | 11.8 | 11.8 | 12.1 | 35th |
| 30th | 12.0 | 11.8 | 11.8 | 12.0 | 11.9 | 12.4 | 30th |
| 25th | 12.1 | 12.0 | 12.0 | 12.2 | 12.1 | 12.5 | 25th |
| 20th | 12.2 | 12.1 | 12.2 | 12.6 | 12.3 | 12.8 | 20th |
| 15th | 12.5 | 12.4 | 12.5 | 13.0 | 12.8 | 13.7 | 15th |
| 10th | 13.0 | 12.8 | 13.0 | 13.5 | 13.5 | 14.0 | 10th |
| 5th | 13.5 | 13.4 | 13.5 | 15.1 | 15.0 | 14.5 | 5th |
| 0th | 20.5 | 26.5 | 18.4 | 27.0 | 20.1 | 18.9 | 0th |

TABLE 35

SHUTTLE RUN FOR GIRLS
(Percentile Scores Based on Classification Index)

| Percentile | National Norms | | | | | | Percentile |
|------------|----------------------|------|------|------|------|------|------------|
| | Classification Index | | | | | | |
| | C | D | E | F | G | H | |
| 100th | 9.0 | 8.9 | 9.0 | 9.0 | 8.3 | 9.3 | 100th |
| 95th | 10.0 | 9.9 | 10.0 | 10.0 | 10.1 | 10.1 | 95th |
| 90th | 10.2 | 10.2 | 10.2 | 10.2 | 10.3 | 10.5 | 90th |
| 85th | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.6 | 85th |
| 80th | 10.8 | 10.8 | 10.6 | 10.5 | 10.6 | 10.8 | 80th |
| 75th | 11.0 | 11.0 | 10.8 | 10.7 | 10.8 | 10.9 | 75th |
| 70th | 11.0 | 11.0 | 11.0 | 10.9 | 11.0 | 11.0 | 70th |
| 65th | 11.2 | 11.1 | 11.0 | 11.0 | 11.0 | 11.1 | 65th |
| 60th | 11.4 | 11.3 | 11.1 | 11.0 | 11.2 | 11.3 | 60th |
| 55th | 11.5 | 11.4 | 11.3 | 11.2 | 11.3 | 11.5 | 55th |
| 50th | 11.5 | 11.6 | 11.5 | 11.4 | 11.5 | 11.6 | 50th |
| 45th | 11.7 | 11.8 | 11.7 | 11.5 | 11.7 | 11.8 | 45th |
| 40th | 11.9 | 12.0 | 12.0 | 11.7 | 11.8 | 12.0 | 40th |
| 35th | 12.0 | 12.0 | 12.0 | 11.9 | 12.0 | 12.2 | 35th |
| 30th | 12.0 | 12.1 | 12.1 | 12.0 | 12.0 | 12.4 | 30th |
| 25th | 12.2 | 12.3 | 12.3 | 12.2 | 12.3 | 12.5 | 25th |
| 20th | 12.5 | 12.6 | 12.5 | 12.5 | 12.5 | 13.0 | 20th |
| 15th | 12.7 | 12.9 | 12.9 | 13.0 | 12.9 | 13.0 | 15th |
| 10th | 13.0 | 13.3 | 13.2 | 13.5 | 13.3 | 13.5 | 10th |
| 5th | 13.8 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 5th |
| 0th | 17.0 | 16.0 | 17.6 | 18.5 | 17.0 | 17.3 | 0th |

TABLE 36

STANDING BROAD JUMP FOR GIRLS
(Percentile Scores Based on Classification Index)

| Percen- tile | Oklahoma Norms | | | | | | Percen- tile |
|-----------------|----------------------|--------|--------|--------|--------|--------|-----------------|
| | Classification Index | | | | | | |
| | C | D | E | F | G | H | |
| 100th | 7' 1" | 8' 6" | 8' 0" | 7' 4" | 6' 8" | 6' 6" | 100th |
| 95th | 6' 4" | 6' 6" | 6' 5" | 6' 6" | 6' 6" | 6' 5" | 95th |
| 90th | 6' 0" | 6' 1" | 6' 3" | 6' 4" | 6' 2" | 6' 0" | 90th |
| 85th | 5' 8" | 6' 0" | 6' 1" | 6' 1" | 6' 1" | 5' 9" | 85th |
| 80th | 5' 7" | 5' 11" | 5' 11" | 6' 0" | 6' 0" | 5' 6" | 80th |
| 75th | 5' 6" | 5' 9" | 5' 10" | 5' 11" | 5' 11" | 5' 5" | 75th |
| 70th | 5' 5" | 5' 8" | 5' 8" | 5' 9" | 5' 10" | 5' 5" | 70th |
| 65th | 5' 4" | 5' 6" | 5' 7" | 5' 8" | 5' 7" | 5' 3" | 65th |
| 60th | 5' 3" | 5' 4" | 5' 6" | 5' 6" | 5' 6" | 5' 2" | 60th |
| 55th | 5' 2" | 5' 4" | 5' 5" | 5' 4" | 5' 4" | 5' 2" | 55th |
| 50th | 5' 1" | 5' 2" | 5' 4" | 5' 3" | 5' 4" | 5' 0" | 50th |
| 45th | 5' 0" | 5' 1" | 5' 3" | 5' 2" | 5' 3" | 4' 10" | 45th |
| 40th | 4' 11" | 5' 0" | 5' 2" | 5' 1" | 5' 1" | 4' 9" | 40th |
| 35th | 4' 9" | 5' 0" | 5' 1" | 5' 0" | 5' 0" | 4' 8" | 35th |
| 30th | 4' 7" | 5' 0" | 5' 0" | 4' 10" | 4' 11" | 4' 6" | 30th |
| 25th | 4' 6" | 4' 11" | 4' 11" | 4' 9" | 4' 9" | 4' 4" | 25th |
| 20th | 4' 6" | 4' 9" | 4' 10" | 4' 6" | 4' 6" | 4' 2" | 20th |
| 15th | 4' 5" | 4' 7" | 4' 7" | 4' 4" | 4' 5" | 4' 1" | 15th |
| 10th | 4' 3" | 4' 6" | 4' 5" | 4' 2" | 4' 3" | 4' 0" | 10th |
| 5th | 4' 1" | 4' 1" | 4' 0" | 4' 0" | 4' 0" | 3' 9" | 5th |
| 0th | 2' 5" | 3' 6" | 2' 11" | 2' 9" | 3' 0" | 3' 0" | 0th |

TABLE 37

STANDING BROAD JUMP FOR GIRLS
(Percentile Scores Based on Classification Index)

| Percen- tile | National Norms | | | | | | Percen- tile |
|-----------------|----------------------|--------|--------|--------|--------|--------|-----------------|
| | Classification Index | | | | | | |
| | C | D | E | F | G | H | |
| 100th | 7' 10" | 7' 0" | 7' 10" | 8' 2" | 7' 4" | 7' 4" | 100th |
| 95th | 6' 2" | 6' 1" | 6' 4" | 6' 3" | 6' 3" | 6' 5" | 95th |
| 90th | 5' 11" | 5' 11" | 6' 0" | 6' 1" | 6' 0" | 6' 2" | 90th |
| 85th | 5' 8" | 5' 8" | 5' 10" | 5' 11" | 5' 9" | 5' 11" | 85th |
| 80th | 5' 7" | 5' 7" | 5' 8" | 5' 9" | 5' 7" | 5' 8" | 80th |
| 75th | 5' 5" | 5' 5" | 5' 7" | 5' 7" | 5' 6" | 5' 7" | 75th |
| 70th | 5' 4" | 5' 4" | 5' 6" | 5' 6" | 5' 5" | 5' 6" | 70th |
| 65th | 5' 2" | 5' 3" | 5' 4" | 5' 4" | 5' 4" | 5' 4" | 65th |
| 60th | 5' 1" | 5' 2" | 5' 2" | 5' 3" | 5' 3" | 5' 3" | 60th |
| 55th | 5' 0" | 5' 1" | 5' 1" | 5' 2" | 5' 2" | 5' 1" | 55th |
| 50th | 4' 11" | 5' 0" | 5' 0" | 5' 1" | 5' 0" | 5' 0" | 50th |
| 45th | 4' 10" | 4' 11" | 4' 11" | 5' 0" | 5' 0" | 4' 9" | 45th |
| 40th | 4' 9" | 4' 9" | 4' 10" | 4' 11" | 4' 10" | 4' 9" | 40th |
| 35th | 4' 8" | 4' 8" | 4' 8" | 4' 9" | 4' 9" | 4' 8" | 35th |
| 30th | 4' 6" | 4' 7" | 4' 7" | 4' 7" | 4' 7" | 4' 6" | 30th |
| 25th | 4' 5" | 4' 5" | 4' 6" | 4' 6" | 4' 6" | 4' 5" | 25th |
| 20th | 4' 3" | 4' 4" | 4' 4" | 4' 4" | 4' 5" | 4' 4" | 20th |
| 15th | 4' 2" | 4' 2" | 4' 2" | 4' 2" | 4' 2" | 4' 2" | 15th |
| 10th | 4' 0" | 4' 0" | 4' 0" | 4' 0" | 4' 0" | 4' 0" | 10th |
| 5th | 3' 7" | 3' 11" | 3' 8" | 3' 9" | 3' 9" | 3' 7" | 5th |
| 0th | 3' 0" | 2' 11" | 2' 11" | 2' 11" | 3' 1" | 2' 11" | 0th |

TABLE 38

50-YARD DASH FOR GIRLS
(Percentile Scores Based on Classification Index)

| Percentile | Oklahoma Norms | | | | | | Percentile |
|------------|----------------------|------|------|------|------|------|------------|
| | Classification Index | | | | | | |
| | C | D | E | F | G | H | |
| 100th | 6.7 | 6.7 | 6.3 | 6.0 | 6.8 | 6.8 | 100th |
| 95th | 7.1 | 7.0 | 7.0 | 6.9 | 7.0 | 6.8 | 95th |
| 90th | 7.3 | 7.2 | 7.1 | 7.0 | 7.0 | 7.5 | 90th |
| 85th | 7.4 | 7.3 | 7.3 | 7.2 | 7.2 | 7.5 | 85th |
| 80th | 7.5 | 7.4 | 7.4 | 7.3 | 7.4 | 7.6 | 80th |
| 75th | 7.6 | 7.5 | 7.5 | 7.4 | 7.4 | 7.8 | 75th |
| 70th | 7.8 | 7.6 | 7.6 | 7.6 | 7.5 | 7.9 | 70th |
| 65th | 7.9 | 7.8 | 7.7 | 7.7 | 7.6 | 8.0 | 65th |
| 60th | 8.0 | 7.9 | 7.8 | 7.8 | 7.7 | 8.0 | 60th |
| 55th | 8.1 | 8.0 | 7.9 | 7.9 | 7.9 | 8.0 | 55th |
| 50th | 8.2 | 8.1 | 8.0 | 8.0 | 8.0 | 8.1 | 50th |
| 45th | 8.4 | 8.2 | 8.1 | 8.1 | 8.0 | 8.4 | 45th |
| 40th | 8.5 | 8.4 | 8.2 | 8.3 | 8.1 | 8.4 | 40th |
| 35th | 8.6 | 8.5 | 8.3 | 8.4 | 8.3 | 8.5 | 35th |
| 30th | 8.8 | 8.8 | 8.4 | 8.5 | 8.7 | 8.8 | 30th |
| 25th | 8.9 | 8.8 | 8.5 | 8.7 | 8.9 | 9.0 | 25th |
| 20th | 9.0 | 9.0 | 8.7 | 8.9 | 9.0 | 9.2 | 20th |
| 15th | 9.0 | 9.1 | 9.0 | 9.0 | 9.2 | 9.5 | 15th |
| 10th | 9.3 | 9.3 | 9.2 | 9.2 | 9.8 | 10.0 | 10th |
| 5th | 10.0 | 9.9 | 9.5 | 9.5 | 10.2 | 10.2 | 5th |
| 0th | 11.3 | 13.0 | 11.2 | 11.6 | 12.1 | 13.0 | 0th |

TABLE 39

50-YARD DASH FOR GIRLS

(Percentile Scores Based on Classification Index)

| Percentile | National Norms | | | | | | Percentile |
|------------|----------------------|------|------|------|------|------|------------|
| | Classification Index | | | | | | |
| | C | D | E | F | G | H | |
| 100th | 6.0 | 6.0 | 6.0 | 5.9 | 6.0 | 6.0 | 100th |
| 95th | 7.0 | 7.2 | 7.0 | 7.0 | 7.3 | 7.2 | 95th |
| 90th | 7.3 | 7.4 | 7.2 | 7.2 | 7.5 | 7.4 | 90th |
| 85th | 7.5 | 7.6 | 7.5 | 7.4 | 7.6 | 7.5 | 85th |
| 80th | 7.7 | 7.7 | 7.6 | 7.5 | 7.8 | 7.6 | 80th |
| 75th | 7.8 | 7.9 | 7.7 | 7.6 | 7.8 | 7.8 | 75th |
| 70th | 7.9 | 7.9 | 7.8 | 7.8 | 7.9 | 7.9 | 70th |
| 65th | 8.0 | 8.0 | 7.9 | 7.9 | 8.0 | 8.0 | 65th |
| 60th | 8.0 | 8.0 | 8.0 | 7.9 | 8.0 | 8.1 | 60th |
| 55th | 8.2 | 8.1 | 8.1 | 8.0 | 8.1 | 8.2 | 55th |
| 50th | 8.3 | 8.2 | 8.2 | 8.1 | 8.3 | 8.2 | 50th |
| 45th | 8.4 | 8.3 | 8.3 | 8.3 | 8.4 | 8.4 | 45th |
| 40th | 8.5 | 8.4 | 8.4 | 8.4 | 8.4 | 8.5 | 40th |
| 35th | 8.6 | 8.5 | 8.5 | 8.5 | 8.6 | 8.6 | 35th |
| 30th | 8.8 | 8.7 | 8.6 | 8.7 | 8.8 | 8.8 | 30th |
| 25th | 9.0 | 8.9 | 8.8 | 8.9 | 9.0 | 9.0 | 25th |
| 20th | 9.1 | 9.0 | 9.0 | 9.0 | 9.1 | 9.2 | 20th |
| 15th | 9.2 | 9.1 | 9.2 | 9.4 | 9.3 | 9.4 | 15th |
| 10th | 9.5 | 9.5 | 9.5 | 9.7 | 9.7 | 9.6 | 10th |
| 5th | 9.8 | 10.0 | 10.0 | 10.5 | 10.4 | 10.0 | 5th |
| 0th | 11.3 | 12.0 | 14.0 | 15.7 | 13.0 | 11.0 | 0th |

TABLE 40

SOFTBALL THROW FOR GIRLS
(Percentile Scores Based on Classification Index)

| Percen- tile | Oklahoma Norms | | | | | | Percen- tile |
|-----------------|----------------------|-----|-----|-----|-----|-----|-----------------|
| | Classification Index | | | | | | |
| | C | D | E | F | G | H | |
| 100th | 108 | 151 | 150 | 210 | 166 | 176 | 100th |
| 95th | 99 | 117 | 113 | 119 | 123 | 162 | 95th |
| 90th | 92 | 100 | 103 | 105 | 118 | 130 | 90th |
| 85th | 86 | 95 | 99 | 99 | 110 | 116 | 85th |
| 80th | 84 | 89 | 95 | 94 | 102 | 105 | 80th |
| 75th | 81 | 83 | 90 | 90 | 99 | 100 | 75th |
| 70th | 75 | 79 | 86 | 88 | 96 | 97 | 70th |
| 65th | 70 | 76 | 84 | 85 | 92 | 94 | 65th |
| 60th | 68 | 75 | 79 | 83 | 87 | 92 | 60th |
| 55th | 64 | 72 | 75 | 80 | 85 | 88 | 55th |
| 50th | 62 | 69 | 74 | 77 | 82 | 85 | 50th |
| 45th | 60 | 66 | 72 | 73 | 75 | 82 | 45th |
| 40th | 58 | 63 | 68 | 70 | 72 | 77 | 40th |
| 35th | 57 | 61 | 65 | 66 | 71 | 70 | 35th |
| 30th | 53 | 59 | 62 | 64 | 67 | 68 | 30th |
| 25th | 51 | 57 | 60 | 60 | 65 | 64 | 25th |
| 20th | 49 | 55 | 57 | 57 | 60 | 57 | 20th |
| 15th | 45 | 48 | 52 | 54 | 56 | 51 | 15th |
| 10th | 43 | 45 | 48 | 50 | 53 | 48 | 10th |
| 5th | 35 | 40 | 41 | 41 | 42 | 43 | 5th |
| 0th | 15 | 15 | 12 | 15 | 24 | 30 | 0th |

TABLE 41

SOFTBALL THROW FOR GIRLS
(Percentile Scores Based on Classification Index)

| Percent- tile | National Norms | | | | | | Percent- tile |
|------------------|----------------------|-----|-----|-----|-----|-----|------------------|
| | Classification Index | | | | | | |
| | C | D | E | F | G | H | |
| 100th | 133 | 135 | 141 | 159 | 143 | 168 | 100th |
| 95th | 90 | 101 | 106 | 111 | 111 | 120 | 95th |
| 90th | 85 | 93 | 99 | 102 | 102 | 112 | 90th |
| 85th | 80 | 87 | 92 | 97 | 100 | 104 | 85th |
| 80th | 76 | 81 | 87 | 92 | 92 | 102 | 80th |
| 75th | 73 | 78 | 84 | 88 | 90 | 99 | 75th |
| 70th | 71 | 74 | 80 | 85 | 87 | 92 | 70th |
| 65th | 68 | 71 | 76 | 81 | 85 | 85 | 65th |
| 60th | 65 | 69 | 74 | 78 | 81 | 82 | 60th |
| 55th | 61 | 65 | 70 | 75 | 78 | 80 | 55th |
| 50th | 59 | 63 | 67 | 72 | 75 | 77 | 50th |
| 45th | 57 | 60 | 64 | 70 | 73 | 75 | 45th |
| 40th | 54 | 58 | 61 | 67 | 70 | 72 | 40th |
| 35th | 52 | 57 | 60 | 65 | 67 | 70 | 35th |
| 30th | 49 | 54 | 56 | 61 | 65 | 66 | 30th |
| 25th | 46 | 50 | 53 | 58 | 60 | 63 | 25th |
| 20th | 44 | 46 | 50 | 54 | 58 | 60 | 20th |
| 15th | 40 | 44 | 47 | 50 | 53 | 57 | 15th |
| 10th | 37 | 40 | 43 | 46 | 48 | 51 | 10th |
| 5th | 32 | 35 | 39 | 38 | 44 | 44 | 5th |
| 0th | 18 | 18 | 21 | 20 | 20 | 21 | 0th |

TABLE 42

600-YARD RUN-WALK FOR GIRLS
(Percentile Scores Based on Classification Index)

| Percentile | Oklahoma Norms | | | | | | Percentile |
|------------|----------------------|--------|--------|--------|--------|--------|------------|
| | Classification Index | | | | | | |
| | C | D | E | F | G | H | |
| 100th | 2' 2" | 1' 54" | 2' 0" | 1' 51" | 1' 53" | 2' 12" | 100th |
| 95th | 2' 2" | 2' 5" | 2' 8" | 2' 10" | 2' 10" | 2' 13" | 95th |
| 90th | 2' 13" | 2' 12" | 2' 14" | 2' 15" | 2' 17" | 2' 16" | 90th |
| 85th | 2' 14" | 2' 18" | 2' 18" | 2' 21" | 2' 20" | 2' 21" | 85th |
| 80th | 2' 19" | 2' 22" | 2' 22" | 2' 24" | 2' 25" | 2' 28" | 80th |
| 75th | 2' 24" | 2' 25" | 2' 25" | 2' 25" | 2' 29" | 2' 34" | 75th |
| 70th | 2' 26" | 2' 27" | 2' 27" | 2' 30" | 2' 32" | 2' 38" | 70th |
| 65th | 2' 29" | 2' 31" | 2' 30" | 2' 35" | 2' 35" | 2' 40" | 65th |
| 60th | 2' 32" | 2' 33" | 2' 32" | 2' 38" | 2' 38" | 2' 48" | 60th |
| 55th | 2' 35" | 2' 35" | 2' 35" | 2' 40" | 2' 40" | 2' 54" | 55th |
| 50th | 2' 37" | 2' 40" | 2' 38" | 2' 43" | 2' 41" | 2' 55" | 50th |
| 45th | 2' 40" | 2' 43" | 2' 42" | 2' 47" | 2' 44" | 3' 0" | 45th |
| 40th | 2' 48" | 2' 45" | 2' 44" | 2' 52" | 2' 50" | 3' 4" | 40th |
| 35th | 2' 49" | 2' 49" | 2' 50" | 2' 59" | 2' 58" | 3' 10" | 35th |
| 30th | 2' 58" | 2' 51" | 2' 55" | 3' 2" | 3' 2" | 3' 12" | 30th |
| 25th | 3' 3" | 2' 56" | 2' 59" | 3' 6" | 3' 11" | 3' 16" | 25th |
| 20th | 3' 7" | 3' 1" | 3' 3" | 3' 14" | 3' 22" | 3' 20" | 20th |
| 15th | 3' 10" | 3' 13" | 3' 13" | 3' 19" | 3' 40" | 3' 30" | 15th |
| 10th | 3' 20" | 3' 20" | 3' 20" | 3' 33" | 3' 44" | 3' 47" | 10th |
| 5th | 3' 30" | 3' 33" | 3' 39" | 3' 57" | 4' 0" | 3' 54" | 5th |
| 0th | 4' 14" | 4' 51" | 5' 14" | 4' 56" | 5' 3" | 4' 56" | 0th |

TABLE 43

600-YARD RUN-WALK FOR GIRLS
(Percentile Scores Based on Classification Index)

| Percentile | National Norms | | | | | | Percentile |
|------------|----------------------|-------|-------|-------|-------|-------|------------|
| | Classification Index | | | | | | |
| | C | D | E | F | G | H | |
| 100th | 1'46" | 1'39" | 1'40" | 1'50" | 1'55" | 2' 4" | 100th |
| 95th | 2'11" | 2'10" | 2'11" | 2'13" | 2'13" | 2'19" | 95th |
| 90th | 2'17" | 2'17" | 2'19" | 2'18" | 2'22" | 2'25" | 90th |
| 85th | 2'22" | 2'23" | 2'24" | 2'25" | 2'25" | 2'30" | 85th |
| 80th | 2'26" | 2'26" | 2'27" | 2'29" | 2'30" | 2'33" | 80th |
| 75th | 2'29" | 2'30" | 2'32" | 2'33" | 2'35" | 2'38" | 75th |
| 70th | 2'32" | 2'33" | 2'36" | 2'37" | 2'40" | 2'41" | 70th |
| 65th | 2'36" | 2'37" | 2'40" | 2'40" | 2'44" | 2'46" | 65th |
| 60th | 2'39" | 2'40" | 2'43" | 2'43" | 2'47" | 2'50" | 60th |
| 55th | 2'43" | 2'45" | 2'46" | 2'47" | 2'50" | 2'55" | 55th |
| 50th | 2'45" | 2'48" | 2'50" | 2'50" | 2'54" | 2'59" | 50th |
| 45th | 2'49" | 2'51" | 2'55" | 2'55" | 2'59" | 3' 4" | 45th |
| 40th | 2'53" | 2'55" | 3' 0" | 2'59" | 3' 3" | 3'10" | 40th |
| 35th | 2'59" | 3' 0" | 3' 2" | 3' 2" | 3' 6" | 3'13" | 35th |
| 30th | 3' 3" | 3' 7" | 3' 6" | 3' 9" | 3'12" | 3'16" | 30th |
| 25th | 3'11" | 3'11" | 3'12" | 3'13" | 3'17" | 3'21" | 25th |
| 20th | 3'18" | 3'16" | 3'17" | 3'18" | 3'25" | 3'29" | 20th |
| 15th | 3'25" | 3'24" | 3'25" | 3'26" | 3'43" | 3'39" | 15th |
| 10th | 3'40" | 3'38" | 3'45" | 3'40" | 3'52" | 3'48" | 10th |
| 5th | 3'59" | 3'59" | 4' 4" | 4' 0" | 4' 7" | 4'11" | 5th |
| 0th | 5' 0" | 4'53" | 5'10" | 5'10" | 5'50" | 5'30" | 0th |

APPENDIX B

INITIAL LETTER TO SCHOOL PRINCIPALS



THE UNIVERSITY OF OKLAHOMA
NORMAN, OKLAHOMA 73069

The purpose of this letter is to solicit your cooperation in a study being conducted this year under the sponsorship of the U.S. Office of Education and which is supported by the Oklahoma Association for Health, Physical Education and Recreation and the State Director of Safety, Health, Physical and Driver Education.

This study is designed to measure the fitness of boys and girls in grades 7 and 8 throughout the state and will make use of the American Association for Health, Physical Education and Recreation's "Youth Fitness Test" which is a commonly used test across the nation. There is no special equipment needed and, if necessary, it would be possible to furnish the personnel needed for the administration of the test.

The test results will be recorded anonymously so there is no possibility of embarrassment to individual students. It is our desire to have every 7th and 8th grade child in the state tested so as to secure the most valid data possible.

The ultimate success of this study depends upon your school's cooperation and I sincerely hope that you will be willing to participate in this study. I would greatly appreciate your immediate response on the enclosed postcard regardless of your decision. Thank you for your time and I hope that you will choose to have your school be a part of this study.

Sincerely,

Jerome C. Weber, Ph.D.
Associate Professor

JCW/ha

Enclosure

APPENDIX C

SELF-ADDRESSED POST CARD REQUESTING PARTICIPATION INFORMATION

Name of School _____

Address _____

Will your school participate in this study? _____

If yes, with whom should we communicate in regard to
this study from now on?

Name _____

Approximate number of 7th and 8th grade boys and girls
at your school: _____

Will you want help in the administration of the tests?

YES

(circle)

NO

APPENDIX D

TEST ADMINISTRATION INSTRUCTION

COLLECTING TEST DATA

The collection of test data on the enclosed data sheets should be done by your students according to your directions. There should be no confusion if these directions are followed. No special writing instrument is required or preferred. Please ask your students to be sure to answer in the proper place and to be as neat as possible.

Question

Directions

- 1-3 The student should PRINT the appropriate information with last name written first. e.g.
1. Name Smith, John
2. School Carver Junior High School
3. City Tulsa
-
- 4-5 The student should CHECK the appropriate box. e.g.
4. Sex ✓
 M F
5. Grade ✓
 7 8
-
- 6-8 The student should CHECK the appropriate line corresponding to his age, height, and weight. e.g.
6. AGE yr. mo. to yr. mo.
 ✓ 13 0 -- 13 5
7. HEIGHT ft. in. to ft. in.
 ✓ 5 2 -- 5 3
8. WEIGHT lbs. to lbs.
 ✓ 106 -- 110
-
- 9-11 The student should CHECK the appropriate answer. Questions 9 and 10 refer to competition or practice up to the time the test is taken. For example, a student planning to compete in interscholastic baseball in the spring should answer NO to question 10. Question 11 should be answered YES only if the entire test has been previously taken. e.g.
9. Are you competing in intramural sports this year?
- ✓
 Yes No
10. Are you competing in inter-scholastic sports this year?
- ✓
 Yes No
11. Have you ever taken this test before?
- ✓
 Yes No

- 12-17 The student should FILL IN the appropriate number from the following coded responses to each question.
12. Type of intramural sports you compete in this year. 2
0. none
1. individual (e.g., wrestling, track)
2. team (e.g. football, basketball)
3. both
13. Type of interscholastic sports you compete in this year. 0
0. none
1. individual (e.g. wrestling, track)
2. team (e.g. football, basketball)
3. both
14. Population of city or town 3
1. 1,000 or less
2. 1,001 to 5,000
3. 5,001 to 10,000
4. 10,001 to 25,000
5. 25,001 to 100,000
6. 100,001 or more
15. Size of school 4
- The following categories are based on the total "average daily enrollment" of all students in your school.)
1. 100 or fewer
2. 101 to 350
3. 351 to 750
4. 751 or more
16. Type of school 3
1. includes grades 1 through 12
2. includes grades 7 and 8 only
3. includes grades 7 through 9
4. includes grades 7 through 12
5. other
17. Number of years of physical education prior to this year 1
- (Write the appropriate number of years of physical education taken before this year.)

18-27 The student should FILL IN his score in each of the test items. Please be sure that each space is filled and that the appropriate categories are used for scoring. If a test item has not been taken, instruct the student to leave the appropriate spaces empty. A SCORE OF ZERO IS NOT TO BE USED IF A TEST ITEM HAS NOT BEEN TAKEN.

18. PULL UP (boys-number e.g. 6 pullups) 0 6
18. FLEXED ARM SWING (girls-seconds e.g. 25 seconds) 2 5

- | | |
|---|---|
| 19. SIT UPS (number e.g. 22 situps) | <div style="border: 1px solid black; padding: 2px;">0</div> <div style="border: 1px solid black; padding: 2px;">2</div> <div style="border: 1px solid black; padding: 2px;">2</div> |
| 20. SHUTTLE RUN (nearest tenth of a second e.g. 10.1 seconds) | <div style="border: 1px solid black; padding: 2px;">1</div> <div style="border: 1px solid black; padding: 2px;">0</div> <div style="border: 1px solid black; padding: 2px;">1</div> |
| 21. STANDING BROAD JUMP (feet and inches e.g. 5 feet 3 inches) | <div style="border: 1px solid black; padding: 2px;">5</div> <div style="border: 1px solid black; padding: 2px;">0</div> <div style="border: 1px solid black; padding: 2px;">3</div> |
| 22. 50 YARD DASH (nearest tenth of a second e.g. 8.6 seconds) | <div style="border: 1px solid black; padding: 2px;">0</div> <div style="border: 1px solid black; padding: 2px;">8</div> <div style="border: 1px solid black; padding: 2px;">6</div> |
| 23. SOFT BALL THROW (nearest foot e.g. 95 feet) | <div style="border: 1px solid black; padding: 2px;">0</div> <div style="border: 1px solid black; padding: 2px;">9</div> <div style="border: 1px solid black; padding: 2px;">5</div> |
| 24. 600 YARD RUN WALK (minutes and seconds e.g. 2 minutes 9 seconds) | <div style="border: 1px solid black; padding: 2px;">2</div> : <div style="border: 1px solid black; padding: 2px;">0</div> <div style="border: 1px solid black; padding: 2px;">9</div> |

I hope that the above directions and the enclosed instructions for the administration of the test items are clear. If you desire any further aid in either administering or recording the test items, please notify me as soon as possible.

When the test items are ready to be returned please have them separated into 4 groups as follows: 7th grade boys, 7th grade girls, 8th grade boys, 8th grade girls. Please return them directly to:

Dr. Jerome Weber
Department of Physical Education
University of Oklahoma
Norman, Oklahoma 73069

It would be greatly appreciated if these forms could be returned by the end of January, 1969, at the latest so that data processing can be started at that time. We will make our results available to you as soon as possible so that this research will be of benefit to you in evaluating your student's performance on these items.

Please accept my deepest thanks for making this work possible and for making a real contribution to Oklahoma's physical education program.

Sincerely,

Jerry Weber
Jerry Weber

TEST ADMINISTRATION

Pull-up - Boys

Equipment. A metal or wooden bar approximately $1\frac{1}{2}$ inches in diameter is preferred. A doorway gym bar can be used and, if no regular equipment is available, a piece of pipe or even the rungs of a ladder can serve the purpose.

Description. The bar should be high enough so that the pupil can hang with his arms and legs fully extended and his feet free of the floor. Use the overhand grasp (palms away from face). After assuming the hanging position, the pupil raises his body by his arms until his chin can be placed over the bar and then lowers his body to a full hang as in the starting position. The exercise is repeated as many times as possible.

Rules. 1. Allow one trial unless it is obvious that the pupil had not had a fair chance.

2. The body must not swing during the execution of the movement. The pull must in no way be a snap movement. If the pupil starts swinging, check this by holding your extended arm across the front of the thighs.

3. The knees must not be raised and kicking of the legs is not permitted.

Scoring. Record the number of completed pull-ups to the nearest whole number.

Flexed Arm Hang - Girls

Equipment. A horizontal bar approximately $1\frac{1}{2}$ inches in diameter is preferred. A doorway gym bar can be used and if no regular equipment is available, a piece of pipe can also serve the purpose. A stop watch is needed.

Description. Adjust the height of the bar so it is approximately equal to the subject's standing height. Use an overhand grasp (palms away from face). With the assistance of two spotters, one in front and one in back or subject, the subject raises her body off the floor to a position where the chin is above the bar, the elbows are flexed and the chest is close to the bar. The subject holds this position against a time criterion as long as possible.

Rules. 1. The stop watch is started as soon as the subject takes the starting position.

2. The watch is stopped when: (a) subject's chin touches the bar, (b) subject's head tilts backwards to keep chin above the bar, (c) subject's chin falls below the level of the bar.

Scoring. Record in seconds to the nearest second the length of time the subject holds the starting position.

Sit-up - Boys and Girls

Equipment. Mat or floor.

Description. The pupil lies on his back, either on the floor or on a mat, with legs extended and feet about two feet apart. His hands are placed on the back of the neck with the fingers interlaced. Elbows are retracted. A partner holds the ankles down, the heels being in contact with the mat or floor at all times.

The pupil sits up, turning the trunk to the left and touching the right elbow to the left knee, returns to starting position, then sits up turning the trunk to the right and touching the left elbow to the right knee. The exercise is repeated, alternating sides.

Rules. 1. The fingers must remain in contact behind the neck throughout the exercise.

2. The knees must be on the floor during the sit-up but may be slightly bent when touching elbow to knee.

3. The back should be rounded and the head and elbows brought forward when sitting up as a "curl" up.

4. When returning to starting position, elbows must be flat on the mat before sitting up again.

Scoring. One point is given for each complete movement of touching elbow to knee. No score should be counted if the fingertips do not maintain contact behind the head, if knees are bent when the pupil lies on his back or when he begins to sit up, or if the pupil pushes up off the floor from an elbow. The maximum limit in terms of number of sit-ups shall be: 50 sit-ups for girls, 100 sit-ups for boys.

Shuttle Run - Boys and Girls

Equipment. Two blocks of wood, 2 in. x 2 in. x 4 in., and stop watch. Pupils should wear sneakers or run barefooted.

Description. Two parallel lines are marked on the floor 30 feet apart. The width of a regulation volleyball court serves as a suitable area. Place the blocks of wood behind one of the lines. The pupil starts from behind the other line. On the signal "Ready? Go!" the pupil runs to the blocks, picks one up, runs back to the starting line and places the block behind the line; he then runs back and picks up the second block which he carries back across the starting line. If the scorer has two stopwatches or one with a split-second timer, it is preferable to have two people running at the same time. To eliminate the necessity of returning the blocks after each race, start the races alternately, first from behind one line and then from behind the other.

Rules. Allow two trials with some rest between.

Scoring. Record the better of the two trials to the nearest tenth of a second.

Standing Broad Jump - Boys and Girls

Equipment. Mat, floor or outdoor jumping pit, and tape measure.

Description. Pupil stands with the feet several inches apart and the toes just behind the take-off line. Preparatory to jumping, the pupil swings the arms backward and bends the knees. The jump is accomplished by simultaneously extending the knees and swinging forward the arms.

Rules 1. Allow three trials.

2. Measure from the take-off line to the heel or other part of the body that touches the floor nearest to the take-off line.

3. When the test is given indoors, it is convenient to tape the tape measure to the floor at right angles to the take-off line and have the pupils jump along the tape. The scorer stands to the side and observes the mark to the nearest inch.

Scoring. Record the best of the three trials in feet and inches to the nearest inch.

50-Yard Dash - Boys and Girls

Equipment - Two stopwatches or one with a split-second timer.

Description. It is preferable to administer this test to two pupils at a time. Have both take positions behind the starting line. The starter will use the commands "Are you ready?" and "Go!" The latter will be accompanied by a downward sweep of the starter's arm to give the timer a visual signal.

Rules. The score is the amount of time between the starter's signal and the instant the pupil crosses the finish line.

Scoring. Record in seconds to the nearest tenth of a second.

Softball Throw for Distance - Boys and Girls

Equipment. Softball (12-inch), small metal or wooden stakes and tape measure.

Description. A football field marked in conventional fashion (five-yard intervals), makes an ideal area for this test. If this is not available,

it is suggested that lines be drawn parallel to the restraining line, five yards apart. The pupil throws the ball while remaining within two parallel lines, six feet apart. Mark the point of landing with one of the small stakes. If his second or third throw is farther, move the stake accordingly so that, after three throws, the stake is at the point of the pupil's best throw. It was found expedient to have the pupil jog out to his stake and stand there; and then, after five pupils have completed their throws, the measurements were taken. By having the pupil at his particular stake, there is little danger of recording the wrong score.

Rules. 1. Only an overhand throw may be used.
2. Three throws are allowed.
3. The distance recorded is the distance from the point of landing to the nearest point on the restraining line.

Scoring. Record the best of the three trials to the nearest foot.

600-Yard Run-Walk - Boys and Girls

Equipment. Track or area marked off for 600 yards and a stop watch.

Description. Pupil uses a standing start. At the signal "Ready? Go!" the subject starts running the 600-yard distance. The running may be interspersed with walking if the subject tires. It is possible to have a dozen subjects run at one time by having the pupils pair off before the start of the event. Then each pupil listens for and remembers his partner's time as the latter crosses the finish. The timer merely calls out the times as the pupils cross the finish.

Rules. Walking is permitted, but the object is to cover the distance in the shortest possible time.

Scoring. Record in minutes and seconds.

APPENDIX E

INDIVIDUAL DATA COLLECTION FORM

1. Name _____ (Place a check in yes or no for 9 - 11)

2. School _____ 9. Are you competing in intramural sports this year? yes no

3. City _____

4. Sex M F 10. Are you competing in inter-scholastic sports this year? yes no

5. Grade 7 8 11. Have you ever taken this test before? yes no

(Place a check in the space provided next to your correct AGE, HEIGHT, and WEIGHT)

| EX. 6. | AGE | yr. | mo. | to | yr. | mo. |
|--------|-------|-----|-----|----|-----|-----|
| 3 | _____ | 11 | 0 | - | 11 | 5 |
| 4 | _____ | 11 | 6 | - | 11 | 11 |
| 5 | _____ | 12 | 0 | - | 12 | 5 |
| 6 | _____ | 12 | 6 | - | 12 | 11 |
| 7 | _____ | 13 | 0 | - | 13 | 5 |
| 8 | _____ | 13 | 6 | - | 13 | 11 |
| 9 | _____ | 14 | 0 | - | 14 | 5 |
| 10 | _____ | 14 | 6 | - | 14 | 11 |
| 11 | _____ | 15 | 0 | - | 15 | 5 |
| 12 | _____ | 15 | 6 | - | 15 | 11 |

(Place the code number in 12 - 17 as instructed by your teacher)

12. Type of intramural sports you compete in this year []

13. Type of interscholastic sports you compete in this year []

14. Population of city or town []

15. Size of school []

16. Type of school []

17. Number of years of physical education prior to this year []

TEST ITEMS

18. PULL UP OR FLEXED ARM SWING []

19. SIT UPS []

20. SHUTTLE RUN []

21. STANDING BROAD JUMP ft. in. []

22. 50 YARD DASH []

23. SOFT BALL THROW []

24. 600 YARD RUN WALK min. sec. []

| EX. 7. | HEIGHT | ft. | in. | to | ft. | in. |
|--------|--------|-----|-----|-----------|-----|-----|
| 1 | _____ | 4 | 2 | - | 4 | 3 |
| 2 | _____ | 4 | 4 | - | 4 | 5 |
| 4 | _____ | 4 | 6 | - | 4 | 7 |
| 6 | _____ | 4 | 8 | - | 4 | 9 |
| 8 | _____ | 4 | 10 | - | 4 | 11 |
| 10 | _____ | 5 | 0 | - | 5 | 1 |
| 12 | _____ | 5 | 2 | - | 5 | 3 |
| 14 | _____ | 5 | 4 | - | 5 | 5 |
| 15 | _____ | 5 | 6 | - | 5 | 7 |
| 16 | _____ | 5 | 8 | | | |
| 17 | _____ | 5 | 9 | and above | | |

| EX. 8. | WEIGHT | lbs. | to | lbs. |
|--------|--------|------|-----------|------|
| 1 | _____ | 60 | - | 65 |
| 2 | _____ | 66 | - | 70 |
| 3 | _____ | 71 | - | 75 |
| 4 | _____ | 76 | - | 80 |
| 5 | _____ | 81 | - | 85 |
| 6 | _____ | 86 | - | 90 |
| 7 | _____ | 91 | - | 95 |
| 8 | _____ | 96 | - | 100 |
| 9 | _____ | 101 | - | 105 |
| 10 | _____ | 106 | - | 110 |
| 11 | _____ | 111 | - | 115 |
| 12 | _____ | 116 | - | 120 |
| 13 | _____ | 121 | - | 125 |
| 14 | _____ | 126 | - | 130 |
| 15 | _____ | 131 | - | 133 |
| 16 | _____ | 134 | - | 136 |
| 17 | _____ | 137 | and above | |

APPENDIX F

FINAL POST CARD REQUESTING INFORMATION
ON TEST ADMINISTRATION

Please return this card since your school originally indicated it would like help in giving these test items.

Name _____ Phone _____

School _____ City _____

___The enclosed directions are sufficient and I will need no further help in the test administration. (If this is checked, you will not be contacted further.)

___I will need help in the test administration. (If this is checked, we will contact you to make further arrangements.)

APPENDIX G

THANK YOU LETTER TO EACH PARTICIPATING SCHOOL



THE UNIVERSITY OF OKLAHOMA

NORMAN, OKLAHOMA 73069

Dear Principal:

Enclosed please find a copy of our study on the "Physical Fitness Status of Oklahoma Youth" in which your school so graciously participated. This report is for your school's information and use. Please see that the physical education teacher(s) has the opportunity to read it.

The study would obviously have been impossible to do without your cooperation and we would like to take this opportunity to express our appreciation for your school's help.

We hope this report will be of value to you, and we would be happy to answer any questions you might have.

Sincerely,

Jerome C. Weber

Jerome C. Weber, Ph.D.
Principal Investigator

Ronald A. Lee

Ronald A. Lee
Research Assistant

APPENDIX H

PRIMARY SAMPLING UNITS

YOUTH FITNESS PROJECT
The University of Oklahoma
Norman, Oklahoma

Primary Sampling Units

County Population
1-499

1. Atoka
2. Beaver
3. Cotton
4. Dewey
5. Latimer
6. Pushmataha
7. Woods

County Population
500-999

1. Adair
2. Beckham
3. Blaine
4. Bryan
5. Cherokee
6. Choctaw
7. Custer
8. Kingfisher
9. Mayes
10. McIntosh
11. Texas
12. Wagner
13. Washita
14. Woodward

County Population
1000-1499

1. Caddo
2. Canadian
3. Carter
4. Garvin
5. Grady
6. Jackson
7. LeFlore
8. McCurtain
9. Okmulgee
10. Ottawa
11. Payne
12. Pittsburg
13. Pottawatomie
14. Rogers
15. Seminole
16. Stephens
17. Washington

County Population
2000-4999

1. Cleveland
2. Comanche
3. Garfield
4. Kay
5. Muskogee

County Population
5000 and over

1. Tulsa
2. Oklahoma

Resume Date
10 29 69

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100 Title

The Physical Fitness Status of Oklahoma Youth
(A Pilot Study for Grades 7 and 8)
Final Report

200 Personal Authors

Weber, Jerome C.

Lee, Ronald A.

300 Institution Source

University of Oklahoma, Norman, Oklahoma,
Research Institute

400 Publ. Date

29 October 1969

Grant No. OGE-7-8-000013-0019-(010)
and Revision #1

500 109 pages

600 Physical Education

Physical Fitness
Local Fitness Norms
National Fitness Norms
Group Comparisons
Junior High School

607 Oklahoma: A.A.H.P.E.R. Youth Fitness Test Scores

800 Abstract:

The A.A.H.P.E.R. Youth Fitness Test was administered to a stratified random sample of 7th and 8th grade boys and girls representing 44 of Oklahoma's 77 counties. The test results were used to generate Oklahoma norms, by age and by the Neilson Cozen index, for each of the 7 test items. The Oklahoma norms, representing 2000 boys and 1600 girls, were compared to the national norms for significant mean differences. Of 38 such comparisons, 25 significant differences ($P < .05$) were found. Of these, 18 favored the Oklahoma sample and 7 favored the national sample. No discernible pattern could be found to account for the observed differences. The number of significant differences found was far greater than would be expected due simply to chance. The observed differences might be attributed to the fact that the Oklahoma schools participated on a voluntary basis and not all schools that originally agreed to participate actually did so. The participating schools were generally larger, better equipped, and had more extensive physical education programs. Therefore, it seems reasonable to infer that they may not be representative of all Oklahoma 7th and 8th grade youngsters but only those in larger schools which offer physical education programs. The observed differences lead to the conclusion that national norms are not always applicable to a local situation.